# THE GROVE AT MERCED SPECIFIC PLAN

## INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Prepared for:

*City of West Covina*

February 2022

taha
environmental planners

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Prepared for

**CITY OF WEST COVINA**
Community Development Department
Planning Division
1444 West Garvey Avenue South
West Covina, CA 91790

Prepared by

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February 2022

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# 1.0 INTRODUCTION

This section provides an overview of the environmental review process for the proposed The Grove at Merced Special Plan (proposed project) and identifies the discretionary actions and approvals needed to implement the proposed project.

## 1.1 PROJECT OVERVIEW

The proposed project consists of a specific plan that would provide land use and development standards for the project site and would guide the development of 39 two-story townhomes on a 2.26-acre project site located at 1912 West Merced Avenue in the City of West Covina. The proposed project would provide 86 total parking spaces, of which 78 would be enclosed garage parking spaces (each residential unit would have a two-car garage) and 8 would be uncovered guest parking spaces. The project site is zoned Single-Family Residential (R-1) in Area District I and has a General Plan land use designation of Neighborhood Low Density Residential (NL).

## 1.2 ENVIRONMENTAL COMPLIANCE REQUIREMENTS

Section 15063(a) of the California Environmental Quality Act (CEQA) Guidelines requires the lead agency to prepare an Initial Study (IS) to determine if the proposed project may have a significant effect on the environment. The purpose of this document is to inform the City of West Covina, public agencies and interested parties of the potential environmental effects resulting from the proposed project. For the proposed project to obtain an environmental clearance in the form of a Mitigated Negative Declaration (MND) in compliance with CEQA, any potential significant adverse effects must be mitigated to a less-than-significant level. This document alone does not determine whether the proposed project will be approved. Rather, it is a disclosure document aimed at equally informing all concerned parties and fostering informed discussion and decision-making regarding all aspects of the proposed project.

## 1.3 PROJECT INFORMATION

| | |
|---|---|
| **Project Title/Location**: | The Grove at Merced Specific Plan<br>1912 West Merced Avenue<br>West Covina, CA 91790 |
| **Lead Agency Name and Address**: | City of West Covina<br>Community Development Department<br>Planning Division<br>1444 West Garvey Avenue South<br>West Covina, CA 91790 |
| **Contact Person and Phone Number** | Jo-Anne Burns, Planning Manager<br>(626) 939-8422 |
| **Project Sponsor's Name and Address**: | Matthew Livingston<br>RC West Covina, LP<br>500 North Larchmont Boulevard, Suite 201<br>Los Angeles, CA 90004 |

## 1.4 DISCRETIONARY ACTIONS AND APPROVALS

Discretionary actions include those local approvals or entitlements necessary to implement a project. The proposed project requires the following discretionary actions:

- Precise Plan – Approval of a Precise Plan is required for the architectural design and site layout of the proposed development.
- Zone Change and Specific Plan Adoption – A zone change from Single-Family Residential (R-1, Area District 1) to Specific Plan (S-P) is required to allow for the development of the proposed project. The proposed Grove at Merced Specific Plan would identify the uses, types of development, and development standards that would be permitted on the project site.
- General Plan Amendment – The existing General Plan land use designation of Neighborhood Low Density Residential (NL) for the project site would be changed to Neighborhood Medium Density Residential (NM), which would allow for densities of approximately 9 to 20 dwelling units per acre. The proposed project seeks a density of 17.2 dwelling units per acre.
- Tentative Tract Map – Approval of a Tentative Tract Map is required to subdivide the project site for shared ownership of the common lot.
- Tree Removal Permit – Approval of a Tree Removal Permit is required to remove 38 trees along the front and side yards of the project site that have a trunk diameter of one foot or more, measured at 4.5 feet above grade.

## 1.5 ORGANIZATION OF THIS INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

The content and format of this Initial Study/Mitigated Negative Declaration (IS/MND) is designed to meet the requirements of CEQA. This IS/MND is organized into the following four sections:

**1.0 Introduction**. This section provides an overview of the proposed project, describes the environmental compliance requirements, and identifies the discretionary actions and approvals needed for the proposed project.

**2.0 Project Description**. This section identifies the location of the project site; describes the project site, the surrounding area, and the proposed project; and provides an estimated timeline for the construction and implementation of the proposed project.

**3.0 Initial Study Checklist and Evaluation**. This section contains the CEQA Guidelines Appendix G: Initial Study Checklist and identifies the level of impact under each environmental impact category. This section also includes a discussion of the environmental impacts and any mitigation measures associated with each category.

**4.0 List of Preparers and Sources Consulted**. This section provides a list of the consultant team members that participated, and a list of sources and references used in the preparation of this IS/MND.

# 2.0 PROJECT DESCRIPTION

This section identifies the location of the project site, describes the project site and the surrounding area, provides a detailed description of the proposed project, and provides an estimated timeline for the implementation for the construction and implementation of the proposed project.

## 2.1 PROJECT LOCATION AND EXISTING SETTING

### PROJECT LOCATION

The project site Is located at 1912 West Merced Avenue in the City of West Covina, towards the western portion of the City. The 2.26-acre project site (Assessor's Parcel Number [APN] 8467-016-020) is located at the intersection of Merced and Van Horn Avenues. The project site is on a triangular-shaped lot bounded by Van Horn Avenue to the northwest, Merced Avenue to the northeast, and Walnut Creek Wash to the south. The location of the project site is shown in **Figure 2-1**.

### EXISTING SITE CONDITIONS

The project site is relatively flat and currently vacant. It was previously developed with a private school; however, all structures have been demolished. A strip of asphalt-paved surface parking lot parallels Merced Avenue along the northeasterly portion of the project site. Remnants of an asphalt-paved parking/play area and concrete slabs from previous structures are also present on the project site. Driveway approaches are located on Van Horn Avenue and at the southeasterly corner of the project site on Merced Avenue. The project site gently slopes down in a southwesterly direction towards Van Horn Avenue.

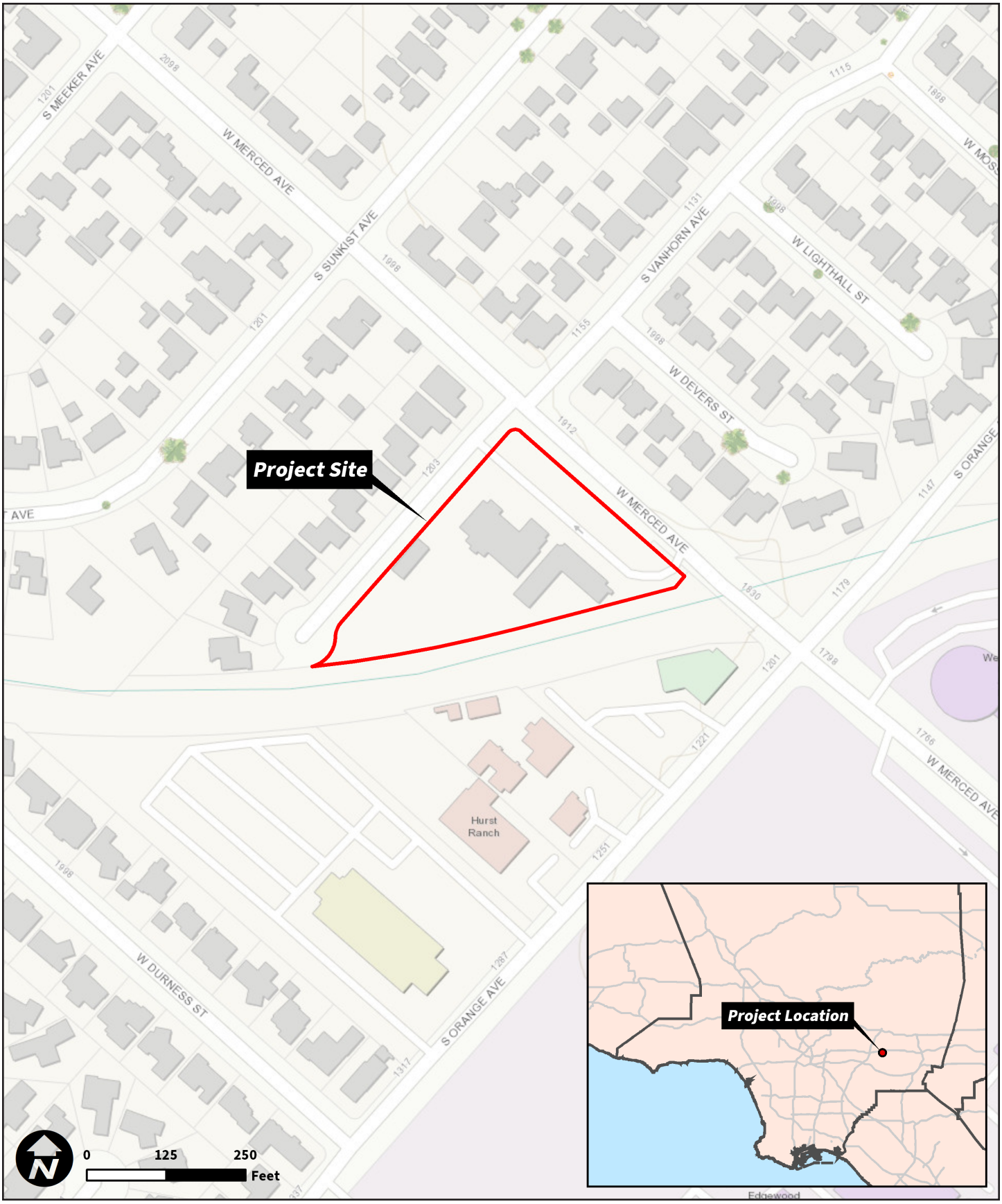
Vegetation on the project site include grass, weeds, trees, shrubs, and bushes. The project site has 52 trees. Trees on the project site include Chinese Privet, Indian Laurel, Aleppo Pine, Brazilian Pepper, Bottletree, Lemon-scented Gum, and Mexican Fan Pal.[1] A majority of these trees are situated along and near the perimeter of the property. Of the 52 trees on the project site, 38 trees are classified as significant per Section 26-289 of the West Covina Municipal Code (WCMC).[2] The sidewalk adjacent to the project site on Merced Avenue has eight street trees, all of which are Crape Myrtle. The street trees have trunk diameters ranging from 2.5 to 6 inches.[3]

The project site has an existing General Plan land use designation of Neighborhood Low Density Residential (NL) and a zoning designation of Single-Family Residential (R-1, Area District I).

[1]L.A. Group Design Works, *Tree Inventory for West Covina Assisted Living/Memory Care Facility*, 1912 W. Merced Ave., West Covina, CA 91790, December 19, 2019.

[2]Per WCMC Section 26-289, a significant tree is defined as a tree on private and/or public property that meets one or more of the following: a) located in the front yard of a lot or parcel and has a caliper of one foot or more; b) located in the street-side yard of a corner lot and has a caliper of one foot or more; and/or c) located anywhere on a lot, has a caliper of six inches or more, and is an oak tree native to California, California Sycamore, or American Sycamore. WCMC Section 26-289 defines caliper as the maximum diameter of the trunk of a tree measured at 4.5 feet above the natural grade. In the case of multi-trunked trees, caliper means the sum of the calipers of each individual trunk measured at 4.5 feet above grade.

[3]L.A. Group Design Works, *Tree Inventory for West Covina Assisted Living/Memory Care Facility*, 1912 W. Merced Ave., West Covina, CA 91790, December 19, 2019.




Source: TAHA, 2021.

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TAHA 2021-043

The Grove at Merced Specific Plan
Initial Study/Mitigated Negative Declaration

CITY OF WEST COVINA

*FIGURE 2-1*

PROJECT LOCATION

**SURROUNDING AREA**

Single-family residences surround the project site to the north, west, and east. The structures are primarily one-story, with one two-story structure approximately one block west of the project site on Sunkist Avenue. Similar to the project site, the residential uses across the street from the project site on Merced Avenue have a General Plan land use designation of NL and zoned R-1, Area District I. The residential uses directly across the street from the project site on Van Horn Avenue has a General Plan land use designation of NL and zoned Residential Agriculture (R-A).

The Walnut Creek Wash borders the project site on the south. The Masonic Lodge, Hurst Ranch Historical Center, and a church are located south across the Wash from the project site. These properties have a Civic: Public Institution (PI) General Plan land use designation and are zoned R-A, Area District II. Edgewood High School is located further southeast, and the West Covina Unified School District (WCUSD) Administration is located further east of the project site. Edgewood High School has a General Plan land use designation of Civic: School (S) and is zoned R-1, Area District II. The WCUSD Administration property has a General Plan land use designation of Commercial (C) and is zoned R-A, Area District II.

Regional mass transit service is provided by Foothill Transit, with the closest bus stop located at the Merced Avenue/Orange Avenue intersection, approximately 0.06 miles southeast of the project site.

An aerial photograph depicting the project site and the surrounding land uses is presented in **Figure 2-2**. **Figures 2-3** shows existing views of the project site and its surrounding area.

## 2.2 PROJECT DESCRIPTION

The proposed project consists of the development of 39 two-story townhomes and a specific plan (The Grove at Merced Specific Plan) that would guide development on the 2.26-acre project site. A total of 76,605 square feet of residential floor area would be developed on the project site. The proposed project would have a development density of 17.3 dwelling units per acre. The proposed townhomes would range from 1,325 to 1,475 square feet in size, excluding the garage areas. Each townhome would have three to four bedrooms, 2.5 bathrooms, a two-car garage, and a dedicated private front yard or garden of at least 100 square feet. The proposed townhomes would be 28 feet in height and would be grouped into six buildings. Each building would have between three to nine individual townhomes attached to each other in rows. The proposed project would provide a total of 86 parking spaces, of which 78 would be enclosed garage parking spaces (each dwelling unit would have a two-car garage) and 8 would be uncovered guest parking spaces. The proposed buildings would be setback from Van Horn and Merced Avenues by a minimum of 15 feet and from Walnut Creek Wash by a minimum of 10 feet. The architectural style of the proposed townhomes would be Spanish. **Figure 2-4** shows the conceptual site plan, and **Figure 2-5** illustrates conceptual building elevations for the proposed structures on the project site.


Source: TAHA, 2021.

taha environmental planners

TAHA 2021-043

The Grove at Merced Specific Plan
Initial Study/Mitigated Negative Declaration

CITY OF WEST COVINA

*FIGURE 2-2*

SURROUNDING LAND USE


1 Van Horn Ave/Merced Ave intersection looking south towards project site.

2 Merced Ave at Walnut Creek Wash looking west towards project site.

3 Van Horn Avenue cul-de-sac looking northeast. Single-family residences are on the northwest side and project site is on the southeast side of the street.

4 Merced Ave looking southeast. Single-family residences are on the northeast side and the project site is on the southwest side of the street.

Source: TAHA, 2021.


Source: WHA, 2021.


Source: WHA, 2021.



*FIGURE 2-5*

CONCEPTUAL ELEVATIONS - 4-UNIT BUILDING

Two-foot tall stucco walls with three-foot tall tubular steel fencing on top would be placed along the perimeter of the project site on Van Horn Avenue. Five-foot tall stucco walls would be placed along the perimeter of the project site on Merced Avenue. Six-foot tall tubular fencing would be placed along the southerly perimeter of the project site, separating the project site from Walnut Creek Wash. Townhome units that do not front Van Horn and Merced Avenues would have 42-inch tall vinyl fencing that separates the private open space areas of each townhome unit and the common areas.

Landscaping is proposed along the perimeter of the project site and along the sides and front of the six buildings. Landscaping would incorporate water conserving features. Existing vegetation on the project site, including 51 of the 52 existing trees, would be removed to accommodate the proposed landscaping. Three of the eight street trees along the sidewalk fronting the project site would be removed, and one of the street trees would be relocated or replaced. The proposed project would install 81 new trees. An approximately 4,760-square-foot common outdoor amenity space would be provided on the project site and would include amenities for outdoor dining and passive recreation, such as barbeque grills and picnic tables. Additionally, two pocket parks with pedestrian pathways are proposed at the southwesterly corner of the project site, as well as at the southern portion of the project site. New street lights would be installed on Van Horn and Merced Avenues at the direction of the City.

Vehicular entrance to the project site would be provided on Merced Avenue at the southeasterly corner of the project site. The project site would have several private drive aisles that would provide direct vehicular access to the garage of each townhome unit. The vehicular entrance on Merced Avenue and private drive aisles would be 26 feet in width and would be designed to provide adequate access for emergency vehicles, such as fire trucks. Pedestrian access would be provided via a sidewalk at the vehicular entrance on Merced Avenue and a pedestrian pathway on Van Horn Avenue. In addition, each of the proposed townhome units that face Van Horn and Merced Avenues would have a walkway that provides direct pedestrian access to the townhome units. On-site infrastructure improvements associated with the proposed project include the installation of on-site catch basins that connect to Walnut Creek Wash, a detention system with infiltration to clean the stormwater first flush before discharging from the project site, a private storm drain system under the main drive aisle to convey stormwater runoff on the project site to the underground detention system, sewer lines under the drive aisles that would connect to the existing sewer system under Van Horn Avenue, and minimum four-inch water lines under the drive aisles that would provide domestic and fire service to the project site and would connect with the existing water lines under Merced Avenue. A drywell system would be installed for stormwater infiltration and drainage, removing sediment and debris from runoff on the project site.

A narrow strip of land that fronts Merced Avenue at the southeastern portion of the project site is currently owned by the Los Angeles County Flood Control District (LACFCD). The applicant of the proposed project would purchase this piece of land from LACFCD prior to recordation of the final tract map for the proposed project.

The Grove at Merced Specific Plan would provide standards and guidelines for the development and design of the project site and would supplement other applicable regulations in the City's Zoning Code. If adopted by the City, the proposed Specific Plan would be the regulatory and land use policy document and would constitute the zoning for the project site. Any situation not specifically addressed by the proposed Specific Plan would be subject to the requirements of the West Covina Municipal Code (WCMC), provided that such regulations are not in conflict with the objectives of the proposed Specific Plan. The proposed Specific Plan would have an allowable density of between 9 and 20 units per acre. The density of the proposed townhomes would be within the parameters proposed for The Grove at Merced Specific Plan. While the proposed townhomes would be 28 feet in height, The Grove at Merced Specific Plan would have a maximum permitted building height limit of 30 feet for future development on the project site. As

with the proposed townhomes, The Grove at Merced Specific Plan would require that structures on the project site be Spanish style. If a different architectural style is requested for future structures on the project site, the design of the structures would be subject to review by the City Planning Commission. **Table 2-1** provides a summary of the proposed townhomes, and **Table 2-2** summarizes the proposed development standards for The Grove at Merced Specific Plan.

**TABLE 2-1: PROPOSED TOWNHOMES SUMMARY**

| | |
|---|---|
| Project Site Area | 2.26 acres |
| Dwelling Units | 39 townhomes |
| Density | 17.3 dwelling units per acre |
| Building Height | 2 stories (28 feet) |
| Building Setback<br>Building to Street (Merced Ave and Van Horn Ave)<br>Building to Walnut Creek Wash (LACFCD Property Line) | <br>15 feet<br>10 feet |
| Ground Coverage /a/ | 75 percent |
| Parking<br>Enclosed Garage Spaces<br>Uncovered Guest Spaces | 86 spaces (total)<br>78 spaces (2 spaces per unit)<br>8 (0.2 spaces per unit) |
| Landscape Area | 22,973 square feet |
| Common Open Space to be Provided | 9,471 square feet |
| Private Open Space to be Provided | 11,391 square feet |
| Wall/Fence Height along Property Line<br>Van Horn Ave and Merced Ave<br>Walnut Creek Wash | <br>5 feet<br>6 feet |

/a/ Ground coverage is the total amount of land covered by residential structures, garages, and all paved areas used for parking and accessways. Decks, patios, pedestrian walkways, and terraces are excluded.
**SOURCE**: WHA, 2021

**TABLE 2-2: PROPOSED THE GROVE AT MERCED SPECIFIC PLAN DEVELOPMENT STANDARDS**

| **Element** | **Development Standard** |
|---|---|
| Density | 9 to 20 units per acre |
| Building Height (Maximum) | 2 stories (30 feet) |
| Building Setback (Minimum)<br>Building to Street (Merced Ave and Van Horn Ave)<br>Building to Walnut Creek Wash (LACFCD Property Line) | <br>15 feet<br>10 feet |
| Ground Coverage /a/ | 75 percent |
| Parking Requirement | 2.2 spaces per unit<br>(2 covered spaces and 0.2 guest spaces) |
| Common Open Space (Minimum) | 150 square feet per unit |
| Private Open Space (Minimum) | 100 square feet per unit (may be an accumulation of yards, balconies, and patios) |
| Wall/Fence Height along Property Line (Maximum) | 5 feet |
| Retaining Wall Height (Maximum) | 4 feet |

/a/ Ground coverage is the total amount of land covered by residential structures, garages, and all paved areas used for parking and accessways. Decks, patios, pedestrian walkways, and terraces are excluded.
**SOURCE**: WHA, 2021

## 2.3 CONSTRUCTION ACTIVITIES AND SCHEDULE

Construction of the proposed project is anticipated to begin in June 2022 and would last approximately 18 months. Construction would occur in two phases. Phase 1 includes site clearing, grading, and installation of all utilities and roadways, and Phase 2 includes the construction of all buildings. Site clearing and grading is estimated to last approximately two months, paving would last for approximately 1 month, and building construction would last for approximately 16 months. Construction activity would occur Mondays through Saturdays for 8 hours per day, in accordance with the City's permitted hours of construction. Completion of the proposed project is expected to occur in January 2024.

# 3.0 INITIAL STUDY CHECKLIST AND EVALUATION

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED**

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

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

**DETERMINATION**: (To be completed by the Lead Agency):

On the basis of this initial evaluation:

☐ 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.

☐ 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 "potentially significant" 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 adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

| | |
|---|---|
| Signature | Date |
| Printed Name | For |

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.1 AESTHETICS.** Would the project: | | | | |
| a) Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☐ | ☑ |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? | ☐ | ☐ | ☐ | ☑ |
| c) Substantially degrade the existing visual character or quality of 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? | ☐ | ☐ | ☑ | ☐ |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | ☐ | ☐ | ☑ | ☐ |

**a)** **No Impact**. A scenic vista is defined as a public viewpoint that provide expansive views of a highly valued landscape for the benefit of the general public. Public views are those that are experienced from a publicly accessible vantage point, such as a roadway or public park. No scenic vistas are available on the project site or within the surrounding area. San Jose Hills is the nearest scenic vista to the project site. San Jose Hills is approximately 3.2 miles southeast of the project site and is not clearly visible from the project site and its surrounding area.[4] Views of San Jose Hills are primarily blocked by intervening structures and trees. The San Gabriel Mountains are visible on the project site and along Merced and Van Horn Avenues. However, these views are limited due to intervening buildings and existing trees. Clear unobstructed views of the San Gabriel Mountains and San Jose Hills are not available on the project site and its surrounding areas. The proposed project would construct two-story buildings on the project site. The height of the proposed townhomes would be 28 feet tall, and the proposed specific plan would limit the height of future structures on the project site to 30 feet. Future structures on the project site would be taller than the existing one-story structures in the surrounding area. However, the proposed project is not expected to obstruct any scenic vistas since none are available on the project site and its surrounding area. Intervening structures and trees would continue to block most views of the San Gabriel Mountains, and views of the San Jose Hills would remain obstructed with implementation of the proposed project. Therefore, no impact would occur.

**b)** **No Impact**. A significant impact would occur if the proposed project would substantially damage scenic resources within a state scenic highway. The project site is not located on or within the vicinity of a scenic highway. The nearest state-designated scenic highway is Angeles Crest Highway (State Route 2), approximately 17 miles northwest of the project site.[5] The nearest eligible scenic highway is San Gabriel Avenue and Azusa Avenue, north of Interstate 210, approximately 4.6 miles northeast of the project site. The project site is not within the viewshed of these state-designated and eligible scenic highways.

[4]City of West Covina, *West Covina General Plan*, adopted December 2016, https://library.municode.com/ca/west_covina/codes/code_of_ordinances?nodeId=MUCO_CH15MIPRREPUHESA_ARTIVNORE.

[5]California Department of Transportation, *California State Scenic Highway System Map*, https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=465dfd3d807c46cc8e8057116f1aacaa, accessed July 2021.

Additionally, the project site does not contain any scenic resources, such as significant trees,[6] heritage trees,[7] rock outcroppings, and historic buildings. Therefore, no impact would occur.

**c)** **Less-Than-Significant Impact**. The project site is currently zoned Single-Family Residential (R-1, Area District 1) and has a General Plan land use designation of Neighborhood Low Density Residential (NL). The project site is currently vacant, and the properties to the east, north, and west of the project site consists of primarily one-story single-family residences, although one two-story single-family residence is located approximately a block west of the project site on Sunkist Avenue. One-story institutional uses are located south of the project site. The proposed project would alter views of the project site by introducing 39 two-story townhomes. The proposed townhomes would be 28 feet tall, and the proposed Specific Plan would limit the height of future structures on the project site to two stories and 30 feet. The proposed project would also change the zoning of the project site from R-1, Area District 1 to Specific Plan (S-P). If The Grove at Merced Specific Plan is approved by the City, the Specific Plan would constitute the zoning for the project site, and future development on the project site would be required to be consistent with the standards and guidelines of the Specific Plan. The design and architecture of the proposed townhomes would be controlled by the provisions of the proposed The Grove at Merced Specific Plan.

With implementation of the proposed project future structures on the project site would be taller than the existing one-story structures across the street from the project site on Van Horn and Merced Avenues. However, the proposed project is not expected to degrade the existing visual character of the project site and its surrounding area since the project site is currently vacant and devoid of any uses. The Grove at Merced Specific Plan includes development standards and design guidelines that encourages building massing, design and setbacks that create visual interest, are at a pedestrian scale, and would be aesthetically compatible with the surrounding residential uses. New landscaping would replace existing vegetation on the project site. While 51 trees on the project site and three street trees on Merced Avenue would be removed, these trees would be replaced with 24-inch box trees. A total of 81 trees would be installed on the project site. The proposed landscaping would include various types of ornamental trees (such as canopy shade, palm, small, and tall vertical trees), accent plants, flowering perennials, ornamental grasses, shrubs, vines, hedges, shade garden plants, and ground covers. Landscaping would be placed along the perimeter of the project site, as well as along the front and sides of the proposed structures. Landscaping would be visible from adjacent roadways. While the proposed project would alter the existing visual character of the project site and would change views of the project site from the surrounding public vantage points (i.e., Van Horn and Merced Avenues), this change would not be considered a degradation of the project site or its surroundings since the proposed project would introduce new structures that would incorporate design and landscaping to increase visual interest and improve the visual character of the vacant project site.

[6]WCMC Section 26-289 defines significant trees as trees on private and/or public property and meets one or more of the following: a) located in the front yard of a lot or parcel and has a caliper of one foot or more; b) located in the street-side yard of a corner lot and has a caliper of one foot or more; and/or c) located anywhere on a lot, has a caliper of six inches or more, and is an Oak tree native to California, California Sycamore, or American Sycamore.

[7]WCMC Section 26-289 defines a heritage tree as any tree identified as such by planning commission resolution upon the commission finding that the tree(s): 1) is of historical value because of its association with a place, building, natural feature, or an event oflocal, regional, or national historic significance; 2) is identified on any historic or cultural resources survey as a significant feature of a landmark, historic site, or historic district; 3) is representative of a significant period of the City's development; or 4) is designated for protection or conservation in a specific plan, conditional use permit, precise plan of design, track or parcel map or similar development approval. Trees of the Southern California black walnut tree species in the San Jose Hills within the West Covina jurisdictional boundaries are also considered heritage trees.

The proposed project would be reviewed for its compatibility with adjacent residential uses as part of the Precise Plan and Specific Plan application process. During the review process, the proposed project would be evaluated for its design, such as building orientation, building bulk and scale, building height and setbacks, and landscaping. The Precise Plan and Specific Plan must be approved by the City prior to development on the project site. The City's regulatory procedure for the proposed zone change, Specific Plan, and Precise Plan would ensure that the proposed project is reviewed for its consistency and compatibility with the surrounding residential uses. With approval of the zone change, Specific Plan, and Precise Plan, a less-than-significant impact on visual character and quality would occur.

**d)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would create a new source of substantial light or glare that would adversely affect day or nighttime views in the area. The project site is located in an urbanized area with a moderate level of ambient lighting. Existing nighttime lighting sources in the surrounding area include streetlights, vehicle headlights, and interior and exterior building illumination from the surrounding single-family residential uses. The proposed project would increase new light sources on the project site as lighting would be provided on the proposed two-story structures, along the drive aisles, and at common open space areas. New street lights would also be provided along Merced and Van Horn Avenues. The proposed project would provide decorative exterior lighting to illuminate walkways and general congregation areas. Although the proposed project would introduce new lighting to the project site, lighting levels would be consistent with the nighttime lighting levels of the residential uses surrounding the project site. Additionally, the proposed project would comply with lighting standards within the WCMC, including WCMC Section 26-519, which requires that lights be hooded and directed away from adjoining properties. Compliance with the WCMC would prevent lighting on the project site from spilling over onto the surrounding residential properties.

The proposed project does not include features that would be a major source of glare during the day and night. The proposed structures would be constructed with primarily non-reflective materials, such as stucco on the exterior facades. The use of glass would be limited to windows and is not expected to generate substantial amount of glare that would affect the surrounding area. Headlights from vehicles entering and exiting the project site on Merced Avenue would not directly shine on nearby residences as residences across the street from the project site on Merced Avenue currently have walls along the property line, which would block light and glare from the project site. Additionally, headlights from vehicles travelling along the proposed private drive aisles within the project site would not affect residences in the surrounding area since lighting from the proposed private drive aisles would be obstructed by the proposed townhome structures. Lighting for the proposed project would be consistent with the lighting levels of the surrounding area, and the proposed project would not cause light to spill over onto the surrounding residential properties. Therefore, the proposed project would not create new sources of substantial glare, and a less-than-significant impact would occur.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.2 AGRICULTURE AND FORESTRY RESOURCES.** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project: | | | | |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | ☐ | ☐ | ☐ | ☑ |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract? | ☐ | ☐ | ☐ | ☑ |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | ☐ | ☐ | ☐ | ☑ |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☑ |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☑ |

**a-b)** **No Impact**. A significant impact would occur if the proposed project would convert valued farmland to non-agricultural uses, conflict with existing agricultural zoning, or be located on agricultural parcels under a Williamson Act contract. Due to its urban setting, the project site and its surroundings are not included in the Farmland Mapping and Monitoring Program of the California Department of Conservation.[8] In addition, the project site is not located within a zone designated for agricultural use or an area that is designated as Williamson Act contract lands. Although the properties across the street from the project site on Van Horn Avenue and immediately south of the Walnut Creek Wash are zoned Residential Agriculture (R-A), these properties consist of single-family residential homes and institutional uses. No agricultural uses or related operations are present within the project site or in the surrounding area. Therefore, no impact on farmland would occur.

**c-d)** **No Impact**. A significant impact would occur if the proposed project would conflict with existing zoning for forest land or timberland, cause the rezoning of forest land or timberland, result in the loss of forest land, or convert forest land to non-forest use. The project site is located within an urban area that is not zoned as forest land. There are no forest land or forest resources located on the project site or in the surrounding area. Therefore, no impact would occur.

[8]California Department of Conservation, *California Important Farmland Finder*, https://maps.conservation.ca.gov/DLRP/CIFF/, accessed October 2020.

**e)** **No Impact**. A significant impact would occur if the proposed project would cause the conversion of farmland or forest land to non-agricultural or forest use, respectively. As discussed in Responses to Checklist Questions 3.2a through 3.2d, no agricultural or forestry operations occur on the project site or its vicinity. The proposed project would not introduce any changes that would result in the conversion of farmland or forest land to non-agricultural or forest use, respectively. Therefore, no impact would occur.

| | | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|---|
| **3.3** | **AIR QUALITY**. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project: | | | | |
| a) | Conflict with or obstruct implementation of the applicable air quality plan? | ☐ | ☐ | ☑ | ☐ |
| b) | 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? | ☐ | ☐ | ☑ | ☐ |
| c) | Expose sensitive receptors to substantial pollutant concentrations? | ☐ | ☐ | ☑ | ☐ |
| d) | Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | ☐ | ☐ | ☑ | ☐ |

The air quality analysis for the proposed project is consistent with the methods described in the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook (1993 edition), as well as the updates to the CEQA Air Quality Handbook.[9] SCAQMD is charged with regional air quality jurisdiction for the South Coast Air Basin (SCAB).

**a)** **Less-Than-Significant Impact**. The applicable air quality plan is the SCAQMD 2016 Air Quality Management Plan (AQMP), which is based on regional growth projections assessed in the Southern California Association of Governments (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) related to population and employment. The 2016 AQMP provides policies and control measures that will reduce emissions to attain both state and federal ambient air quality standards by their applicable deadlines. Environmental review of individual projects within the SCAB must demonstrate that daily construction and operational emissions thresholds, as established by SCAQMD, would not be exceeded. The environmental review must also demonstrate that individual projects would not increase the number or severity of existing air quality violations.

The SCAQMD CEQA Air Quality Handbook identifies two key indicators of consistency with the AQMP:

1) Whether the project would 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 air quality plan; and

2) Whether the project would exceed the forecasted growth incorporated into the AQMP via the RTP/SCS.

***Consistency Criterion 1: Air Quality Emissions***

With regards to the first consistency criterion, SCAQMD has developed regional air quality significance thresholds volatile organic compounds (VOC), nitrogen oxides ($NO_X$), carbon monoxide (CO), sulfur oxides ($SO_X$), and respirable particulate matter less than 10 microns in diameter ($PM_{10}$) and fine particulate matter less than 2.5 microns in

[9]SCAQMD, *Air Quality Analysis Guidance Handbook,* http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook, accessed December 2021.

diameter ($PM_{2.5}$). These regional significance thresholds are used to assess potential air quality impacts that may result from construction and operation of projects. **Table 3-1** shows the SCAQMD daily regional emissions thresholds for construction and operations.

**TABLE 3-1: SCAQMD DAILY EMISSIONS THRESHOLDS**

| | Pounds per Day | |
|---|---|---|
| **Criteria Pollutant** | **Construction** | **Operations** |
| Volatile Organic Compounds (VOC) | 75 | 55 |
| Nitrogen Oxides ($NO_X$) | 100 | 55 |
| Carbon Monoxide (CO) | 550 | 550 |
| Sulfur Oxides ($SO_X$) | 150 | 150 |
| Fine Particulates ($PM_{2.5}$) | 55 | 55 |
| Particulates ($PM_{10}$) | 150 | 150 |

**SOURCE**: SCAQMD, 2021

*Construction Emissions*. Construction of the proposed project has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated by construction workers and haul trucks traveling to and from the project site. Fugitive dust emissions would primarily result from site preparation and grading activities. $NO_X$ emissions would predominantly result from the use of construction equipment and haul truck trips. The assessment of construction air quality impacts considers all of these emissions sources. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions.

It is mandatory for all construction projects in the SCAB to comply with SCAQMD Rule 403 for Fugitive Dust. Rule 403 control requirements include measures to prevent the generation of visible dust plumes. Measures include, but are not limited to, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system or other control measures to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site, and maintaining effective cover over exposed areas. Compliance with Rule 403 would reduce regional $PM_{2.5}$ and $PM_{10}$ emissions associated with construction activities by approximately 61 percent.

As recommended by SCAQMD, the California Emissions Estimator Model (CalEEMod, version 2020.4.0) was used for quantifying air pollutant emissions that would be generated during construction and operations of the proposed project. Maximum daily emissions for each construction activity were estimated based on heavy duty equipment use, fugitive dust (on-site), and vehicular travel to and from the project site (off-site). **Table 3-2** shows the maximum unmitigated daily regional emissions for each construction activity. As shown, maximum daily emissions of all air pollutants would remain below all applicable regional SCAQMD thresholds.

**TABLE 3-2: ESTIMATED REGIONAL CONSTRUCTION EMISSIONS**

| Construction Activity | Maximum Daily Emissions (Pounds Per Day) | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{10}$ | $PM_{2.5}$ |
| **SITE PREPARATION** | | | | | | |
| On-Site Emissions | 0.7 | 7.5 | 6.5 | <0.1 | 0.5 | 0.3 |
| Off-Site Emissions | 0.1 | 0.1 | 1.2 | <0.1 | 0.3 | 0.1 |
| **Total** | **0.8** | **7.6** | **7.7** | **<0.1** | **0.8** | **0.4** |
| **GRADING** | | | | | | |
| On-Site Emissions | 1.0 | 11.4 | 7.8 | <0.1 | 0.8 | 0.5 |
| Off-Site Emissions | 0.2 | 1.8 | 1.6 | <0.1 | 0.5 | 0.1 |
| **Total** | **1.2** | **13.3** | **9.4** | **<0.1** | **1.3** | **0.6** |
| **PAVING** | | | | | | |
| On-Site Emissions | 0.7 | 6.0 | 7.6 | <0.1 | 0.3 | 0.3 |
| Off-Site Emissions | 0.1 | 0.5 | 1.3 | <0.1 | 0.4 | 0.1 |
| **Total** | **0.8** | **6.5** | **8.9** | **<0.1** | **0.7** | **0.4** |
| **BUILDING CONSTRUCTION** | | | | | | |
| On-Site Emissions | 0.8 | 9.0 | 13.0 | <0.1 | 0.4 | 0.4 |
| Off-Site Emissions | 0.5 | 1.1 | 5.0 | <0.1 | 1.5 | 0.4 |
| **Total** | **1.3** | **10.1** | **18.0** | **<0.1** | **1.9** | **0.8** |
| **ARCHITECTURAL COATING** | | | | | | |
| On-Site Emissions | 17.1 | 3.4 | 5.3 | <0.1 | 0.2 | 0.2 |
| Off-Site Emissions | 0.1 | 0.2 | 0.8 | <0.1 | 0.2 | 0.1 |
| **Total** | **17.2** | **3.6** | **6.1** | **<0.1** | **0.4** | **0.2** |
| **BUILDING CONSTRUCTION + PAVING + ARCHITECTURAL COATING OVERLAP** | | | | | | |
| On-Site Emissions | 18.5 | 18.4 | 25.8 | <0.1 | 0.9 | 0.8 |
| Off-Site Emissions | 0.7 | 1.8 | 7.1 | <0.1 | 2.1 | 0.6 |
| **Total** | **19.2** | **20.2** | **33.0** | **0.1** | **2.9** | **1.4** |
| | | | | | | |
| **Maximum Daily Emissions** | **19.2** | **20.2** | **32.4** | **0.1** | **2.9** | **1.4** |
| Regional Significance Threshold | 75 | 100 | 550 | 150 | 150 | 55 |
| **Exceed Threshold?** | **No** | **No** | **No** | **No** | **No** | **No** |

**Note:** Emissions modeling files can be found in **Appendix A**.
**SOURCE:** TAHA, 2021

*Operational Emissions*. The proposed project would generate regional operational emissions from vehicle trips and energy use. The proposed land uses would generate 263 daily vehicle trips. CalEEMod program generates estimates of emissions from energy use based on the land use type and size of the project. **Table 3-3** presents the estimated operation emissions of the proposed project. As shown, future occupation of the proposed project would not result in daily emissions that exceed any of the applicable SCAQMD regional thresholds.

**TABLE 3-3: ESTIMATED DAILY OPERATIONAL EMISSIONS**

| Operational Activity | Maximum Daily Emissions (Pounds Per Day) | | | | | |
|---|---|---|---|---|---|---|
| | **VOC** | **$NO_X$** | **CO** | **$SO_X$** | **$PM_{10}$** | **$PM_{2.5}$** |
| Area Sources | 1.8 | <0.1 | 3.2 | <0.1 | <0.1 | <0.1 |
| Energy Sources | <0.1 | 0.2 | 0.1 | <0.1 | <0.1 | <0.1 |
| Mobile Sources | 0.7 | 0.8 | 7.5 | <0.1 | 1.7 | 0.5 |
| | | | | | | |
| **Daily Operational Emissions** | **2.6** | **1.0** | **10.8** | **<0.1** | **1.8** | **0.5** |
| Regional Threshold | 55 | 55 | 550 | 150 | 150 | 55 |
| **Exceed Threshold?** | **No** | **No** | **No** | **No** | **No** | **No** |

**Note:** Emissions modeling files can be found in **Appendix A**.
**SOURCE:** TAHA, 2021

*Consistency Criterion 2: AQMP Growth Forecast*. The second AQMP consistency criterion requires that the proposed project does not exceed the growth assumptions in the AQMP. The population and employment assumptions used to estimate regional emissions in the AQMP are obtained from SCAG projections for cities and unincorporated areas within the SCAQMD jurisdiction. Projects that are consistent with regional growth projections are generally consistent with the AQMP. As discussed in Response to Checklist Question 3.14a, the proposed townhomes are estimated to increase population in the city by 135 persons, which would represent approximately 2 percent of the projected population increase for the City and would be within the SCAG 2040 population forecast for the City. Therefore, the proposed project would not result in growth that would exceed the projections incorporated into the AQMP.

***Summary***

The proposed project would not result in daily emissions that exceed the applicable SCAQMD thresholds, which were established to ensure that individual projects would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP (Consistency Criterion 1). Additionally, the proposed project would not have the potential to result in population and employment growth that would exceed the growth projections incorporated into the AQMP (Consistency Criterion 2). Therefore, the proposed project would be consistency with the AQMP, and a less-than-significant impact would occur.

**b)** **Less-Than-Significant Impact**. SCAB has ongoing cumulative regional emissions for $O_3$, $PM_{10}$, and $PM_{2.5}$ since the region is designated as non-attainment of the California Ambient Air Quality Standards and National Ambient Air Quality Standards for these air pollutants. Considering existing environmental conditions, SCAQMD propagated guidance that an individual project can emit allowable quantities of these pollutants on a regional scale without significantly contributing to cumulative emissions of criteria pollutants for which the region is non-attainment (**Table 3-1**). As such, individual projects that do not generate emissions greater than the SCAQMD regional significance thresholds are not expected to result in cumulatively considerable net increase of any criteria pollutant for which SCAB is non-attainment. As discussed in Response to Checklist Question 3.3a, daily regional emissions associated with construction and operation of the proposed project would be below all applicable regional SCAQMD thresholds. Therefore, the proposed project would not result in a cumulatively considerable net increase of non-attainment pollutants, and a less-than-significant impact would occur.

**c)** **Less-Than-Significant Impact**. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The California Air Resources Board (CARB) has identified the following groups who are most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. According to SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

SCAQMD has established 1,640 feet (500 meters) as the distance for assessing localized air quality impacts. The proposed project is located in a residential area with the nearest residences located approximately 50 feet to the west on Van Horn Avenue and 100 feet to the northeast on Merced Avenue. Other air quality sensitive land uses within 1,640 feet of the project site include:

- Edgewood Middle and High Schools approximately 250 feet to the south;
- Orangewood Park approximately 850 feet to the southeast;
- Orangewood Elementary School approximately 1,160 feet to the south; and
- Emanate Health Queen of the Valley Hospital approximately 1,580 feet to the southeast.

***Construction***

Sensitive receptors surrounding the project site may be exposed to pollutant concentrations emanating from emissions sources involved in construction activities for the proposed project. SCAQMD established a Localized Significance Threshold (LST) methodology to determine the likelihood of substantial criteria pollutant concentrations reaching sensitive receptor locations. Mobile source emissions on the roadway network are spread across long distances and do not directly affect receptors in close proximity to the project site. The LST methodology involves screening values for daily emissions of $NO_X$, CO, $PM_{10}$, and $PM_{2.5}$ that are generated exclusively by sources located on project sites. LST values were determined using emissions modeling based on ambient air quality measured throughout SCAB. If maximum daily emissions remain below the LST values during construction activities, it is highly unlikely that air pollutant concentrations in the ambient air would reach substantial levels sufficient to create public health concerns for sensitive receptors.

**Table 3-4** presents the maximum daily on-site emissions during construction of the proposed project and the LST for the project site. The LST represents a one-acre project site with air quality sensitive receptors that are within approximately 820 feet (25 meters) of the project site. Although the project site is 2.26 acres, the LST for a one-acre site was selected because the LST for a one-acre site is lower than a two-acre site. If on-site construction does not result in pollutant emissions that exceed the LST for a one-acre site, then it is expected that on-site construction activities would result in pollutant emissions that would be well below the LST for a two-acre site. As shown, maximum daily emissions of criteria pollutants and ozone precursors would not exceed any of the applicable LST values. Therefore, construction of the proposed project would not result in exposure of sensitive receptors to substantial criteria pollutants concentrations.

**TABLE 3-4: ESTIMATED LOCALIZED CONSTRUCTION EMISSIONS**

| Construction Activity | Maximum Daily On-Site Emissions (Pounds Per Day) | | | |
|---|---|---|---|---|
| | $NO_X$ | CO | $PM_{10}$ | $PM_{2.5}$ |
| Site Preparation | 7.5 | 6.5 | 0.5 | 0.3 |
| Grading | 11.5 | 7.8 | 0.8 | 0.5 |
| Building Construction + Paving + Architectural Coating | 18.4 | 25.8 | 0.9 | 0.8 |
| | | | | |
| **Maximum Daily Localized Emissions** | **18.4** | **25.8** | **0.9** | **0.8** |
| Localized Significance Threshold /a/ | 83 | 673 | 5 | 4 |
| **Exceed Threshold?** | **No** | **No** | **No** | **No** |

/a/ LST values correspond to a one-acre disturbance area in SRA 11 within 25 meters of the nearest sensitive receptor.
**Note:** Emissions modeling files can be found in **Appendix A**.
**SOURCE:** TAHA, 2021

With regards to TAC emissions, carcinogenic risks, and non-carcinogenic hazards, the use of heavy-duty construction equipment and haul trucks during construction activities would release diesel PM to the atmosphere through exhaust emissions. Diesel PM is a known carcinogen, and extended exposure to elevated concentrations of diesel PM can increase excess cancer risks in individuals. However, carcinogenic risks are typically assessed over timescales of several years to decades, as the carcinogenic dose-response is cumulative in nature. Short term exposures to diesel PM would have to involve extremely high concentrations in order to exceed the SCAQMD air quality significance threshold of 10 excess cancers per million.

Construction of the proposed project would persist for approximately 18 months, which represents only five percent of the 30-year exposure period that the Office of Environmental Health Hazard Assessment utilizes for assessing long-term residential and occupational carcinogenic exposures and risks. On average, diesel PM emissions from on-site equipment would be less than approximately 0.4 pounds per day, and daily emissions of diesel PM would fluctuate throughout the construction period. Short-term exposures to diesel PM would have to involve extremely high concentrations (such as through intensive, lengthy earthwork activities) in order for health risk impacts to occur on shorter timelines. It is unlikely that diesel PM concentrations would be of any public health concern during the 18-month construction period, and diesel PM emissions would cease upon completion of construction activities.

The proposed project diesel exhaust emissions from equipment combined with the length of the construction period would not generate substantial emissions that would cause a health risk to surrounding land uses. In addition, the size and location of the project site indicates that only during a limited portion of construction activities would heavy-duty diesel-powered equipment be operating within 100 feet of sensitive receptors. The proposed project would comply with the CARB In-Use Off-Road Diesel Vehicle Regulation and the Air Toxics Control Measure, which limit diesel powered equipment and truck idling to no more than five minutes at a location and minimize diesel PM emissions through inspections and maintenance. Adhering to these provisions would ensure that substantial diesel PM concentrations at sensitive receptor locations would not be generated by on-site equipment activity. Therefore, the proposed project would result in a less-than-significant impact related to construction TAC emissions, concentrations, and exposures.

***Operation***

The proposed project does not include an industrial component that would constitute a new substantial stationary source of operational air pollutant emissions and does not include a land use that would generate a substantial number of heavy-duty truck trips within the region. The proposed project would not generate air toxic emissions that would expose sensitive receptors to substantial pollutant concentrations. Therefore, the proposed project would result in a less-than-significant impact related to substantial pollutant concentrations during operational activities.

**d)** **Less-Than-Significant Impact.** Odors are the only potential construction and operational emissions other than the sources addressed in Response to Checklist Questions 3.3a through 3.3c that has the potential to adversely affect a substantial number of people.

During construction, potential sources that may produce objectionable odors include equipment exhaust, application of asphalt and architectural coatings, and other interior and exterior finishes. Odors from these sources would be localized and generally confined to the immediate area surrounding the project site, would be temporary in nature, and would not persist beyond the termination of construction activities. The proposed project would utilize typical construction techniques, and the odors would be typical of most construction sites. Odors from the construction activities would decrease, dissipate away from the construction area, and quickly diluted. Therefore, the proposed project would result in a less-than-significant impact related to construction odors.

Land uses and industrial operations that are associated with odor complaints generally include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies and fiberglass molding.[10] During operational activities, the proposed townhomes would produce some odors and smells associated with the preparation of food, which would be typical of the types of odors that currently exist in the residential neighborhood. Therefore, the proposed project would result in a less-than-significant impact related to operational odors.

[10]SCAQMD, CEQA Air Quality Handbook, 1993.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.4 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? | ☐ | ☐ | ☐ | ☑ |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? | ☐ | ☐ | ☐ | ☑ |
| c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | ☐ | ☐ | ☐ | ☑ |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ☐ | ☑ | ☐ | ☐ |
| e) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)? | ☐ | ☐ | ☑ | ☐ |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | ☐ | ☐ | ☐ | ☑ |

**a)** **No Impact**. A significant biological impact would occur if the proposed project would cause the loss or destruction of individuals of a candidate, sensitive, or special status species or through the degradation of sensitive habitat. The project site is located in an urban area surrounded by residential and institutional uses. Plant life on the project site is limited to non-native and ornamental species used for landscaping. Animal life is comprised of common bird, insect, reptile, and small mammal species. The California Natural Diversity Database (CNDDB), a computerized database that identifies past occurrences of species of special concern (e.g., plants, animals, and communities that are rare, threatened, or endangered) does not identify any candidate, sensitive, or special status species on the project site or within approximately 0.8 miles of the project site.[11] Although the project site is currently vacant, the entire project site has been previously disturbed and developed with urban uses (i.e., structures, ornamental landscaping, and paved areas). Suitable habitat for special-status wildlife species does not occur within the project site. Since no special-status species were identified or have high likelihood of occurring on the project site, it is unlikely that the proposed project would result in the loss or destruction of individual candidate, sensitive, or special status species or the degradation of sensitive habitat. Therefore, the proposed project would not have an effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans,

[11]California Department of Fish and Wildlife, *California Natural Diversity Database*, https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data#43018408-cnddb-in-bios, accessed July 2021.

policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or the U.S. Fish and Wildlife Service (USFWS), and no impact would occur.

**b)** **No Impact**. A significant impact would occur if any riparian habitat or natural community would be lost or destroyed as a result of urban development. As discussed in Response to Checklist Question 3.4a, the project site is located within an urbanized area surrounded by residential and institutional uses. The project site is bordered on the southerly side by the Walnut Creek Wash, a concrete-lined channel. The project site and the adjacent Walnut Creek Wash do not contain any riparian habitat or features necessary to support riparian habitat. Additionally, CNDDB has not listed any riparian habitat or other sensitive natural communities on or in the vicinity of the project site.[12] Therefore, the proposed project would not have any effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS, and no impact would occur.

**c)** **No Impact**. A significant impact would occur if federally protected wetlands would be modified or removed as a result of the proposed project. The project site does not contain any state or federally protected wetlands. The project site is located in an urbanized area and is zoned for residential uses. Walnut Creek Wash adjoins the south side of the project site. It is a concrete-lined channel and contains no federally protected wetlands. Additionally, the proposed project does not involve any activities that would alter Walnut Creek Wash. The proposed project would not have any 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. Therefore, no impact would occur.

**d)** **Less-Than-Significant Impact with Mitigation Incorporated**. A significant impact would occur if the proposed project would interfere with, or remove access to, a migratory wildlife corridor or impede use of native wildlife nursery sites. The project site and the surrounding area are highly developed with urban uses, and no wildlife corridors are on or in proximity to the project site. The project site does not contain any state or federally protected wetlands that would contain migratory fish or other wildlife species. If migratory birds were to traverse the project site, the birds would likely utilize mature vegetation on the project site, some of which may potentially provide nesting sites for migratory birds. The proposed project would remove 54 trees (51 trees on the project site and 3 street trees) and relocate one street tree. The removal and relocation of these trees could potentially affect migratory birds; however, the proposed project is required to comply with the Migratory Bird Treaty Act (MBTA)[13] and the California Fish and Game Code (CFGC).[14] Under the MBTA and California FGC, it is unlawful to take or possess any migratory nongame bird.[15] To ensure that the proposed project complies with MBTA and CFGC, implementation of Mitigation Measure **BR-1** would be required. Mitigation Measure **BR-1** would require a nesting survey be conducted if tree removal or trimming activities occur during the nesting season (February 15 through August 15). The nesting survey would be conducted prior to tree removal or trimming activities to ensure that no active nests are present. By avoiding clearing and tree trimming during the bird-breeding season or performing nest surveys to ensure no active nests are present prior to clearing and tree trimming activities, the proposed project would be in compliance with the MBTA and pertinent sections of the

[12]California Department of Fish and Wildlife, *California Natural Diversity Database*, https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data#treaty43018408-cnddb-in-bios, accessed July 2021.

[13]Migratory Bird Treaty Act, 16 USC Chapter 7, Subchapter II, Section 703.

[14]California Department of Fish and Game Code Section 3513.

[15]"Take" is defined by the U.S. Fish and Wildlife Service (Federal Endangered Species Act Section 3(19) as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." "Take" is defined by the California Fish and Game Code Section 86 as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.

CFGC. With implementation of Mitigation Measure **BR-1**, the proposed project is not expected to interfere with wildlife movement or impede the use of native wildlife nursery sites. Therefore, a less-than-significant impact would occur with implementation of Mitigation Measure **BR-1**.

**e)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project were inconsistent with local regulations pertaining to biological resources. An existing tree inventory for the project site identified a total of 52 on-site trees and 8 street trees along Merced Avenue, of which 47 trees on the project site are classified as significant per Section 26-289 of the WCMC.[16] None of the street trees adjacent to the project site are classified as significant. The proposed project would remove 51 trees on the project site and 3 street trees along Merced Avenue. These trees would be replaced with 24-inch box trees. A total of 81 trees would be installed on the project site. The proposed project is required to comply with the City's tree preservation ordinance (WCMC, Chapter 26, Article VI, Division 9 – Preservation, Protection and Removal of Trees), including the approval of a Tree Removal Permit for the removal of the 47 significant trees on the project site.[17] As the project applicant would be required to comply with the City's tree preservation ordinance, the proposed project would not conflict with any local policies or ordinances protecting biological resources.[18] Therefore, a less-than-significant impact would occur.

**f)** **No Impact**. The project site is located in an urbanized area and surrounded primarily by residential and institutional uses. The project site is not located within or adjacent to the boundaries of any adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur.

**MITGATION MEASURES**

**BR-1** All tree removal and tree trimming activities shall be performed prior to or after the bird-breeding season of February 1st through August 15th (i.e., only between August 16 and January 31). If clearing/vegetation removal or tree trimming is planned to occur during the breeding season, a nest survey shall be conducted by a qualified biologist no more than one week prior to any clearing or tree trimming activities. Work may proceed only if no active bird nests are detected.

[16]L.A. Group Design Works, *West Covina Assisted Living/Memory Care Facility Tree Report*, December 19, 2019.

[17]City of West Covina, *Municipal Code: Section 26-293(a)(2)(a) - Permit procedure*, available at https://library.municode.com/ca/west_covina/codes/code_of_ordinances?nodeId=MUCO_CH26ZO_ARTVIPRHENOFECA_DIV9PRPRRETR_S26-293PEPR.

[18]*Ibid.*

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.5 CULTURAL RESOURCES.** Would the project: | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5? | ☐ | ☐ | ☐ | ☑ |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? | ☐ | ☑ | ☐ | ☐ |
| c) Disturb any human remains, including those interred outside of formal cemeteries? | ☐ | ☐ | ☑ | ☐ |

**a)** **No Impact**. A significant impact would occur if the proposed project would cause a substantial adverse change in the significance of a historical resource. CEQA Guidelines Section 15064.5 generally defines a historical resource as any object, building, structure, site, area, place, record, or manuscript determined to be historically significant or significant in the architectural or cultural annals of California. Historical resources are further defined as being associated with significant events, important persons, or distinctive characteristics of a type, period or method of construction; representing the work of an important creative individual; or possessing high artistic values. The project site was previously developed with a school; however, all structures have been demolished, and the site is currently vacant. No historic resources are on the project site. The project site is not listed or eligible for listing in the California Register of Historic Resources, City's 2006 Historic Context Report,[19] and the 2019 Historic Resource Inventory Update.[20] Therefore, no impact would occur.

**b)** **Less-Than-Significant Impact with Mitigation Incorporated**. A significant impact would occur if a known or unknown archaeological resource would be removed, altered, or destroyed as a result of the proposed project. CEQA Guidelines Section 15064.5 defines significant archaeological resources as resources which meet the criteria for historical resources, as discussed above, or resources that constitute unique archaeological resources associated with a scientifically recognized important prehistoric or historic event or person.

The project site is located in an urbanized area that has been subject to previous grading and development. Any surficial archaeological resources that may have existed on the project site are likely to have been previously disturbed or removed. Although no archaeological resources are known to exist on the project site, encountering unanticipated archaeological resources during ground disturbance is a possibility, and implementation of Mitigation Measures **CR-1** and **CR-2** would be required to reduce the potential for the destruction of any significant archaeological resource. Mitigation Measure **CR-1** would require construction personnel to undergo archaeological sensitivity training prior to commencement of any ground-disturbing activities. Mitigation Measure **CR-2** consists of procedural steps to take in the event of an unanticipated discovery during construction. Therefore, with implementation of Mitigation Measures **CR-1** and **CR-2**, impacts related to archaeological resources would be less than significant.

[19]City of West Covina, *2016 Historic Context Report*, 2016, https://www.westcovina.org/departments/community-development/planning-division/historic-preservation, accessed October 2020.

[20]City of West Covina, *Historic Context Statement, 1945-1978 & Historic Resource Inventory Update*, December 2019, https://www.westcovina.org/departments/community-development/planning-division/historic-preservation, accessed October 2020.

**c)** **Less-Than-Significant Impact**. A significant impact would occur if previously interred human remains would be disturbed during excavation of the project site. The project site is not part of a formal cemetery and is not known to have been used for disposal of historic or prehistoric human remains. There are no known human remains on the site, and human remains are not expected to be encountered during construction of the proposed project. While no formal cemeteries, other places of human interment, or burial grounds or sites are known to exist within the project site, there is always a possibility that human remains may be unexpectedly encountered during construction. In the unlikely event that human remains are encountered, the proposed project would be required to comply with Section 7050.5 of the California Health and Safety Code. If human remains of Native American origin are discovered during construction, the proposed project would also be required to comply with applicable regulations related to the handling of Native American human remains, including Public Resources Code (PRC) Section 5097. With compliance of the State Health and Safety Code Section 7050.5 and applicable regulations related to the handling of human remains of Native American origin, no impact would occur.

**MITIGATION MEASURES**

**CR-1** A qualified archaeologist shall be retained to conduct a Worker Environmental Awareness Program (WEAP) training on archaeological sensitivity for all construction personnel prior to the commencement of any ground-disturbing activities. The training shall be conducted by an archaeologist who meets or exceeds the Secretary of Interior's Professional Qualification Standards for archaeology. Archaeological sensitivity training shall include a description of the types of cultural material that may be encountered, cultural sensitivity issues, the regulatory environment, and the proper protocol for treatment of the materials in the event of a find.

**CR-2** If archaeological resources are encountered during ground-disturbing activities, the City of West Covina Community Development Department shall be immediately informed of the discovery. All work shall cease in the area of the find or diverted away from the discovery to a distance of 50 feet until a qualified archaeologist has evaluated the find in accordance with federal, state, and local guidelines, including those set forth in California Public Resources Code Section 21083.2. Personnel of the project shall not collect or move any archaeological materials or associated materials. Construction activity may continue unimpeded on other portions of the project site. Construction shall not resume in the locality of the discovery until the identified resources are properly assessed and consultation between the qualified supervisor, the City of West Covina Community Development Department, the applicant's representative, and all other concerned parties takes place and reaches a conclusion approved by the City of West Covina Community Development Department.

The qualified archaeologist shall be retained by the project applicant to determine if the find is classified as a significant cultural resource pursuant to the CEQA definition of historical resources (CEQA Guidelines 15064.5[a]) and/or unique archaeological resources (Public Resources Code 21083.2[g]). If the resource is classified as a significant cultural resource, the qualified archaeologist shall make recommendations on the treatment and disposition of the find. The final recommendations on the treatment and disposition of the find shall be developed in accordance with all applicable provisions of the Public Resources Code Section 21083.2 and CEQA Guidelines Sections 15064.5 and 15126.4 and shall be reviewed by the City of West Covina Community Development Department prior to implementation. The final recommendations shall be implemented, and the City shall be provided with a final report on the treatment and disposition of the find prior to issuance of a Certificate of Occupancy.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.6 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? | ☐ | ☐ | ☑ | ☐ |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | ☐ | ☐ | ☑ | ☐ |

**a-b) Less-Than-Significant Impact**. The main forms of available energy supply are electricity, natural gas, and oil. During construction of the proposed project, energy would be primarily consumed in the form of electricity associated with the conveyance of water used for dust control, powering lights, electronic equipment, or other construction activities that require electrical power. Construction activities typically do not involve the consumption of natural gas. Construction activities would consume energy in the form of petroleum-based fuels associated with the use of off-road construction vehicles and equipment, round-trip construction worker travel to the project site, and delivery and haul truck trips. Construction activities would comply with CARB's "In-Use Off-Road Diesel Fueled Fleets Regulation", which limits engine idling times to reduce harmful emissions and reduce wasteful consumption of petroleum-based fuel. Additionally, the proposed project would comply the California Renewable Portfolio Standard, the Clean Energy and Pollution reduction Act of 2015 (Senate Bill [SB] 350). Compliance with local, state, and federal regulations would reduce short-term energy demand during proposed project construction to the extent feasible, and proposed project construction would not result in a wasteful or inefficient use of energy.

During operations of the proposed project, Southern California Edison would provide electricity and Southern California Gas Company would provide natural gas to the project site. Energy use associated with operation of the proposed project would be typical of residential uses, requiring electricity and natural gas for interior and exterior building lighting; heating, ventilation, and air conditioning; electronic equipment; machinery; refrigeration; appliances; security systems; and more. Maintenance activities during operations, such as landscape maintenance, would involve the use of electric or gas-powered equipment. In addition to on-site energy use, the proposed project would result in transportation energy use associated with vehicle trips generated by the proposed residential units. However, the proposed project would not involve any characteristics or processes that would require the use of equipment that would be more energy intensive than is used for comparable activities or involve the use of equipment that would not conform to current emissions standards and related fuel efficiencies.

In September 2011, the City adopted an Energy Action Plan to guide the City toward attainable conservation goals that may also significantly reduce the impact of greenhouse gas (GHG) emissions within the community. The Energy Action Plan proposes several policies related to energy-efficiency and conservation, including energy and water conservation design features in new development projects. The proposed project will be subject to the California Green Building Standards Code, which requires new buildings to reduce water consumption, employ building commissioning to increase building system efficiencies for large buildings, divert construction waste from landfills, and install low pollutant-emitting finish materials. The proposed project does not include any feature (i.e., substantially alter energy demands) that would interfere with implementation of these state and City codes and plans. Therefore, a less-than-significant impact would occur.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.7 GEOLOGY AND SOILS.** Would the project: | | | | |
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to division of Mines and Geology Special Publication 42. | ☐ | ☐ | ☐ | ☑ |
| ii) Strong seismic ground shaking? | ☐ | ☐ | ☑ | ☐ |
| iii) Seismic-related ground failure, including liquefaction? | ☐ | ☐ | ☐ | ☑ |
| iv) Landslides? | ☐ | ☐ | ☐ | ☑ |
| b) Result in substantial soil erosion or the loss of topsoil? | ☐ | ☐ | ☑ | ☐ |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potential result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? | ☐ | ☐ | ☐ | ☑ |
| d) Be located on expansive soil as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? | ☐ | ☐ | ☑ | ☐ |
| 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? | ☐ | ☐ | ☐ | ☑ |
| f) Directly or indirectly destroy a unique paleontological resource or unique geologic feature? | ☐ | ☑ | ☐ | ☐ |

**a.i)** **No Impact**. A significant impact would occur if the proposed project would exacerbate existing environmental conditions in a manner that would increase the potential to expose people or structures to substantial adverse effects associated with the rupture of a known earthquake fault. The Alquist-Priolo Earthquake Fault Zoning Act regulates development near active faults to mitigate the hazard of surface fault rupture. It prohibits the location of most structures for human occupancy across the trace of active faults. The Act also establishes Earthquake Fault Zones and requires geologic/seismic studies of all proposed developments within 1,000 feet of the zone. The Earthquake Fault Zones are delineated and defined by the State Geologist and identify areas where potential surface rupture along a fault could occur. According to the California Department of Conservation Earthquake Zones of Required Investigation, the project site is not located within the Alquist-Priolo Special Studies Zone, and no trace of any known active or potentially active fault passes through the project site.[21] The proposed project does not involve any activities that would potentially exacerbate existing environmental conditions so as to increase the potential to expose people or structures to the rupture of a known earthquake fault. The type of development proposed is

[21]California Department of Conservation, *Earthquake Zone of Required Investigation*, https://maps.conservation.ca.gov/cgs/EQZApp/app/, accessed July 2021.

typical of urban environments and would not involve deep excavation into the Earth or boring of large areas creating unstable seismic conditions or stresses in the Earth's crust that would result in the rupture of a fault. Therefore, no impact would occur.

**a.ii)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would exacerbate existing environmental conditions in a manner that would increase the potential to expose people or structures to substantial adverse effects related to strong ground shaking from severe earthquakes. As with all properties in the seismically active Southern California region, the project site is susceptible to ground shaking during a seismic event. The ground motion characteristics of any future earthquakes in the region would depend on the characteristics of the generating fault, the distance to the epicenter, the magnitude of the earthquake, and the site-specific geologic conditions. The proposed project does not involve activities that would increase the potential to expose people or structures to the adverse effects associated with strong seismic ground shaking. Additionally, the design and construction of the proposed buildings are required to conform to the California Building Code seismic standards, as well as all other applicable codes and standards to reduce impacts from strong seismic ground shaking. Therefore, a less-than-significant impact would occur.

**a.iii)** **No Impact**. A significant impact would occur if the proposed project would exacerbate existing environmental conditions in a manner that would increase the potential to expose people or structures to substantial adverse effects related to seismic-related ground failure, including liquefaction. Liquefaction typically occurs when a saturated or partially saturated soil becomes malleable and loses strength and stiffness in response to an applied stress caused by earthquake shaking or other sudden change in stress conditions. Soil liquefaction occurs when loose, saturated, granular soils lose their inherent shear strength due to excess water pressure that builds up during repeated movement from seismic activity. Liquefaction usually results in horizontal and vertical movements from the lateral spreading of liquefied materials and post-earthquake settlement of liquefied materials. According to the California Department of Conservation's Earthquake Zones of Required Investigation, the project site is not located within a liquefaction hazard zone.[22] Additionally, the geotechnical report conducted for the project site concluded that the liquefaction potential on the project site is minimal.[23] The proposed project would be constructed in accordance with the California Building Code, which is designed to assure safe construction and includes building foundation requirements appropriate to site conditions. Therefore, no impact would occur.

**a.iv)** **No Impact**. A significant impact would occur if the proposed project would exacerbate existing environmental conditions in a manner that would increase the potential to expose people or structures to substantial adverse effects related to landslides. The project site and its surrounding area are relatively flat. According to the California Department of Conservation's Earthquake Zones of Required Investigation, the project site is not located within an earthquake-induced landslide area.[24] Therefore, no impact would occur.

**b)** **Less-Than-Significant Impact**. A significant impact would occur if construction activities or future uses of the proposed project would result in substantial soil erosion or loss of topsoil. During ground disturbing activities, such as grading, the project site could potentially be subject to soil erosion or loss of topsoil. However, the proposed project

[22]California Department of Conservation, *Earthquake Zone of Required Investigation*, https://maps.conservation.ca.gov/cgs/EQZApp/app/, accessed July 2021.

[23]Alta California Geotechnical Inc., *Geotechnical Investigation: West Covina 18- Merced Project, 1912 West Merced Avenue*, May 19, 2017.

[24]*Ibid*.

would be required to comply with local, state, and federal regulations and standards related to minimizing potential erosion impacts, including the latest requirements of the City-enforced National Pollution Discharge Elimination System (NPDES) Construction General Permit, best management practices (BMPs), and applicable pollution control and erosion protection measures pursuant to the City's Drainage and Grading ordinance (WCMC Chapter 9). The NPDES Construction General Permit and WCMC Section 9-36 requires the development of a Stormwater Pollution Prevention Plan (SWPPP), which the City would review and approve prior to issuing any grading or building permit of the proposed project. The SWPPP would include BMPs to control sedimentation and erosion. With compliance with these regulations, impacts related to soil erosion and loss of topsoil would be less than significant

**c)** **No Impact**. A significant impact would occur if the proposed project would cause geologic unit or soil on the project site to become unstable or, if the project site is on unstable geologic unit or soil, the proposed project would exacerbate existing conditions so as to increase the potential for landslides, lateral spreading, subsidence, liquefaction, or collapse. As discussed under Response to Checklist Questions 3.7a.iii and 3.7a.iv, the project site is not located within a liquefaction hazard zone or an earthquake-induced landslide area, respectively.[25] The proposed project would not create liquefaction or landslide hazards because the proposed project does not involve activities that would affect seismic conditions or alter underlying soil or groundwater characteristics that govern liquefaction potential. Additionally, the project site and the surrounding area are relatively flat and, thus, are not susceptible to landslides and the likelihood of lateral spreading is low.

Subsidence and ground collapse generally occur in areas with active groundwater withdrawal or petroleum production. The extraction of groundwater or petroleum from sedimentary source rocks can cause the permanent collapse of the pore space previously occupied by the removed fluid. The compaction of subsurface sediments by fluid withdrawal will cause subsidence or ground collapse overlying a pumped reservoir. The project site and its vicinity do not contain any subsurface oil extraction facilities or groundwater withdrawal activities. The project site is located in an area with single-family residential and institutional uses. The proposed project would develop 39 townhomes on the project site. Construction and operation of the proposed project would not involve activities known to cause or trigger subsidence and is not anticipated to adversely affect soil stability or increase the potential for local or regional landslides, lateral spreading, subsidence, liquefaction, or collapse. The proposed project would be constructed in accordance with the California Building Code, which is designed to assure safe construction and includes building foundation requirements appropriate to site conditions. Thus, the proposed project would not cause or exacerbate existing conditions associated with landslides, lateral spreading, subsidence, liquefaction, or collapse. No impact would occur.

**d)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would be built on expansive soils without proper site preparation or adequate foundations for proposed buildings, thus posing a hazard to life and property. Expansive soils have relatively high clay mineral content and are usually found in areas where underlying formations contain an abundance of clay minerals. Due to its high clay content, expansive soils expand with the addition of water and shrink when dried, which can cause damage to

[25]California Department of Conservation, *Earthquake Zone of Required Investigation*, https://maps.conservation.ca.gov/cgs/EQZApp/app/, accessed July 2021.

overlying structures. Changes in soil moisture content can result from rainfall, landscape irrigation, utility leakage, roof drainage, perched groundwater, drought, or other factors

According to the Seismic Hazard Zone Report for the Baldwin Park Quadrangle, the project site is located in an area that is covered by younger alluvial fan deposits consisting of gravel, sand, and silt.[26] Additionally, on-site subsurface samples that were collected as part of the subsurface investigation for the project site indicated that soils on the project generally consisted of silty sand and sandy silts with gravel. Undocumented artificial fill on the project site were encountered to a depth of three to five feet below the ground surface and consists of primarily grayish dark brown to dark brown silty sand.[27] Alluvium consisting of silts and sands was encountered to the depth of the borings at 15 feet[28] and 51 feet below the ground surface.[29] Clay was not identified in the soil underlying the project site. Expansion index testing conducted during the subsurface investigation concluded that the upper surface materials on the project site are low in expansion potential.[30] Thus, the potential for the project site to contain expansive soils is low. The proposed project would be required to comply with all applicable building codes and standards, including the California Building Code, which is designed to assure safe construction and includes building foundation requirements appropriate to site conditions. Therefore, a less-than-significant impact would occur.

**e)** **No Impact**. A significant impact would occur if adequate wastewater disposal were not available to the project site. The project site is fully developed and located in an urbanized area of the City, where wastewater infrastructure is currently in place. The proposed project would connect to the existing sanitary sewer system and would not include septic tanks or alternative wastewater disposal systems. Therefore, no impact would occur.

**f)** **Less-Than-Significant Impact with Mitigation Incorporated**. A significant impact would occur if the proposed project would directly or indirectly destroy a unique paleontological resource or unique geologic feature. Paleontological resources are fossils (e.g., preserved bones, shells, exoskeletons, and other remains) and other traces of former living things. Paleontological resources may be present in fossil-bearing soils and rock formations below the ground surface. Ground-disturbing activities in fossil-bearing soils and rock formations have the potential to damage or destroy paleontological resources that may be present below the ground surface.

The project site is located in an urbanized area that has been subject to previous grading and development. No unique geologic features exist on or adjacent to the project site. The proposed project does not involve deep levels of excavation. Ground-disturbing activities would generally take place in previously disturbed soils and are not expected to disturb native soil. However, it is possible that unanticipated paleontological resources may be encountered during ground disturbance, and implementation of Mitigation Measures **GS-1** and **GS-2** would be required to reduce the potential for the destruction of a unique paleontological resource. Mitigation Measure **CR-1** would require construction personnel to undergo training regarding the identification of fossils and notification procedures in the

[26]California Department of Conservation, *Seismic Hazard Zone Report for the Baldwin Park 7.5-Minute Quadrangle, Los Angeles County, California*, 1998.

[27]Alta California Geotechnical Inc., *Geotechnical Investigation: West Covina 18- Merced Project, 1912 West Merced Avenue*, May 19, 2017.

[28]Converse Consultants, *Supplemental Site Investigation Report: Merced 2 Acres, 1912 West Merced Avenue, West Covina, California,* June 3, 2019,

[29]Alta California Geotechnical Inc., *Geotechnical Investigation: West Covina 18- Merced Project, 1912 West Merced Avenue*, May 19, 2017.

[30]*Ibid.*

event fossils are discovered during construction. Mitigation Measure **CR-2** consists of procedural steps to take in the event of an unanticipated paleontological resource discovery during construction. Therefore, less-than-significant impacts would occur with implementation of Mitigation Measures **GS-1** and **GS-2**.

**MITIGATION MEASURES**

**GS-1** A qualified paleontologist shall be retained to conduct a WEAP training for all construction personnel prior to the commencement of any ground-disturbing activities regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff. A qualified paleontologist is a paleontologist who meets the Society of Vertebrate Paleontology (SVP) standards for Qualified Professional Paleontologist, which is defined as an individual preferably with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California (preferably southern California), and who has worked as a paleontological mitigation project supervisor for a least one year.

**GS-2** In the event paleontological resources are encountered during construction, the City of West Covina Community Development Department shall be immediately informed of the discovery. All work shall cease in the area of the find and a qualified paleontologist shall be contacted to evaluate the find before restarting work in the area. The City shall require that all paleontological resources identified on the project site be assessed and treated in a manner determined by the qualified paleontologist. Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. In this case, the paleontologist shall have the authority to temporarily direct, divert or halt construction activity to ensure that the fossil(s) can be removed in a safe and timely manner. Any significant paleontological resources found during construction monitoring shall be prepared, identified, analyzed, and permanently curated in an approved regional museum repository under the oversight of the qualified paleontologist. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the project paleontologist. Work in the area of the discovery shall resume once the find is properly documented and the qualified paleontologist authorizes resumption of construction work.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.8 GREENHOUSE GAS EMISSIONS.** Would the project: | | | | |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | ☐ | ☐ | ☑ | ☐ |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | ☐ | ☐ | ☑ | ☐ |

**a) Less-Than-Significant Impact**. GHG emissions refer to a group of emissions that are generally believed to affect global climate conditions. The greenhouse effect compares the Earth and the atmosphere surrounding it to a greenhouse with glass panes. The glass panes in a greenhouse let heat from sunlight in and reduce the amount of heat that escapes. GHGs, such as carbon dioxide ($CO_2$), methane ($CH_4$), and nitrous oxide ($N_2O$), keep the average surface temperature of the Earth close to 60°F. Without the natural greenhouse effect, the Earth's surface would be about 61°F cooler.[31]

In addition to $CO_2$, $CH_4$, and $N_2O$, GHGs include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride ($SF_6$), black carbon (black carbon is the most strongly light-absorbing component of particulate matter emitted from burning fuels, such as coal, diesel, and biomass), and water vapor. $CO_2$ is the most abundant pollutant that contributes to climate change through fossil fuel combustion. The other GHGs are less abundant but have higher global warming potential than $CO_2$. To account for this higher potential, emissions of other GHGs are frequently expressed in the equivalent of $CO_2$, denoted as $CO_2e$. $CO_2e$ is a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

The CEQA Guidelines require lead agencies to adopt GHG thresholds of significance. When adopting these thresholds, the amended Guidelines allows lead agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence, and/or to develop their own significance threshold. Neither the City nor SCAQMD has officially adopted a quantitative threshold value for determining the significance of GHG emissions that will be generated by projects under CEQA.

SCAQMD published the *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* in October 2008.[32] SCAQMD convened a GHG CEQA Significance Threshold Stakeholder Working Group beginning in April of 2008 to examine alternatives for establishing quantitative GHG thresholds within the district's jurisdiction. The Working Group proposed a tiered screening methodology for assessing the potential significance of GHG emissions generated by CEQA projects.

[31]California Environmental Protection Agency Climate Action Team, *Climate Action Report to Governor Schwarzenegger and the California Legislator*, March 2006.

[32]South Coast Air Quality Management District, *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold*, October 2008.

The tiered screening methodology was outlined in the minutes of the final Working Group meeting on September 28, 2010.[33] For the purposes of this environmental assessment, the interim Tier III screening threshold value of 3,000 $MTCO_2e$ per year is the most appropriate comparison value for impacts determination based on the residential elements comprising the proposed project.

GHG emissions that would be generated by the proposed project were estimated using CalEEMod, as recommended by the SCAQMD. CalEEMod quantifies GHG emissions from construction activities and future operation of projects. Sources of GHG emissions during project construction would include heavy-duty off-road diesel equipment and vehicular travel to and from the project site. Sources of GHG emissions during project operation would include employee and delivery vehicular travel, energy demand, water use, and waste generation. In accordance with SCAQMD methodology, the total amount of GHG emissions that would be generated by construction of the proposed project was amortized over a 30-year operational period to represent long-term impacts.

**Table 3-5** presents the estimated GHG emissions that would be released to the atmosphere on an annual basis by the proposed project. Construction of the proposed project would produce approximately 740.8 metric tons per year of carbon dioxide equivalent emissions ($MTCO_2e$), or 24.7 $MTCO_2e$ annually over a 30-year period. The total annual operating emissions would be approximately 421.6 $MTCO_2e$ per year after accounting for amortized construction emissions. This mass rate is substantially below the most applicable quantitative draft interim threshold of 3,000 $MTCO_2e$ per year recommended by SCAQMD to capture 90 percent of CEQA projects within its jurisdiction. Therefore, impacts would be less than significant.

**TABLE 3-5: ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS**

| **Scenario and Emission Source** | **Carbon Dioxide Equivalent (Metric Tons per Year)** |
|---|---|
| Construction Emissions Amortized (Direct) /a/ | 24.7 |
| Area Source Emissions (Direct) | 0.7 |
| Energy Source Emissions (Indirect) | 96.8 |
| Mobile Source Emissions (Direct) | 277.9 |
| Waste Disposal Emissions (Indirect) | 9.0 |
| Water Distribution Emissions (Indirect) | 12.5 |
| **TOTAL** | **421.6** |
| SCAQMD Draft Interim Significance Threshold | 3,000 |
| **Threshold Exceeded?** | **No** |

/a/ Based on SCAQMD guidance, the emissions summary also includes construction emissions amortized over a 30-year span.
**SOURCE**: TAHA, 2021

**b) Less-Than-Significant Impact**. Assembly Bill (AB) 32 requires CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions and directs CARB to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill sets a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. On December 11, 2008, CARB

[33]South Coast Air Quality Management District, *Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15*, September 28, 2010, www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf, accessed December 2021.

adopted the Scoping Plan, which sets forth the framework for facilitating the state's goal of reducing GHG emissions to 1990 levels by 2020. The First Update of the Scoping Plan was adopted on May 22, 2014. CARB has adopted the 2017 Scoping Plan in November 2017 which details strategies to cut back 40 percent of GHGs by 2030. Neither AB 32, the updated first Scoping Plan, nor the 2017 Scoping Plan establishes regulations implementing, for specific projects, the legislature's statewide goals for reducing GHGs.[34]

The Scoping Plan outlines a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions, including expanding energy efficiency programs, increasing electricity production from renewable resources (at least 33 percent of the statewide electricity mix), increasing automobile efficiency, implementing the Low-Carbon Fuel Standard, and developing a cap-and-trade program. These measures are designed to be implemented by state agencies. The proposed project would not interfere with implementation of AB 32 measures.

The California legislature enacted SB 375 in 2008 to set regional targets for the reduction of GHG emissions and require the preparation of Sustainable Communities Strategies (SCSs) by MPOs. SB 743 was enacted in 2013 to evolve the assessment of transportation impacts under CEQA, and in 2018 new CEQA Guidelines were published that incorporated SB 743 by promulgating the use of VMT and VMT reductions as a significance threshold metric. The proposed project would introduce approximately 263 daily vehicle trips to the surrounding area. The types of vehicle trips associated with the proposed project would be similar to other residences in the surrounding area, such as vehicle trips associated with traveling to and from employment, shopping, and the nearest educational facility. The proposed project would not have the potential to conflict with the regional GHG emissions targets and VMT reduction efforts of SB 375 and SB 743, respectively.

The California legislature passed SB 375 to connect regional transportation planning to land use decisions made at a local level. SB 375 requires metropolitan planning organizations to prepare an SCS in their regional transportation plans to achieve the per capita GHG reduction targets. For the SCAG region, the SCS is contained in the 2020-2045 RTP/SCS. The proposed project would not conflict with the applicable goals of the 2020-2045 RTP/SCS. The proposed project would be an infill development on a vacant property located in an existing residential neighborhood. It would not disturb any natural and agricultural lands. Based on the San Gabriel Valley Council of Governments (SGVCOG) VMT Evaluation Tool, the proposed project would be located in a low-VMT area and was screened out of a VMT analysis, demonstrating that the proposed project would not conflict with the SCAG SCS. Additionally, the proposed project would be located within walking distance of the Foothill Transit 272 bus station, approximately 320 feet southeast of the project site on Merced Avenue. This bus route would connect the project site to the regional transit system. Therefore, the proposed project would be consistent with the RTP/SCS.

With regards to local climate planning initiatives, the City adopted an Energy Action Plan in 2011 to guide the City toward attainable conservation goals that may also significantly reduce the impact of GHG emissions within the community. The proposed project would be consistent with the Energy Action Plan by complying with the California Building Code (Title 24), including the California Green Building Standards Code. The California Green Building Standard Code, referred to as CalGreen, is the first statewide Green Building Code. CalGreen lays out minimum requirements for newly constructed buildings in

[34]*Center for Biological Diversity v. California Department of Fish and Wildlife*, 62 Cal..4th 204, November 30, 2015.

California, which reduces GHG emissions through improved efficiency and process improvements. It requires builders to install plumbing that cuts indoor water use by as much as 20 percent, to divert 50 percent of construction waste from landfills to recycling, and to use low-pollutant paints, carpets, and floors.

The City's General Plan includes a series of polices for implementing a well-planned community. Applicable policies aimed at reducing GHG emissions include the following:

- Policy P1.3: Minimize the adverse impacts of growth and development on air quality and climate.
- Policy P3.6: Reduce West Covina's production of greenhouse gas emissions and contribution to climate change and adapt to the effects of climate change.[35]

The proposed project would be consistent with Policies P1.3 and P3.6 of the City's General Plan since the proposed project would comply with all applicable regulations associated with reducing GHG emissions, such as CalGreen.

The proposed project would not conflict with applicable plans, policies, and regulations associated with reducing GHG emissions. Therefore, less-than-significant impacts are expected.

[35]City of West Covina, *West Covina General Plan*, adopted December 2016.

| | | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|---|
| **3.9** | **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? | ☐ | ☐ | ☑ | ☐ |
| b) | Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☐ | ☐ | ☑ | ☐ |
| c) | Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | ☐ | ☐ | ☑ | ☐ |
| d) | Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | ☐ | ☐ | ☐ | ☑ |
| e) | For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? | ☐ | ☐ | ☐ | ☑ |
| f) | Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☑ | ☐ |
| g) | Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires? | ☐ | ☐ | ☐ | ☑ |

**a-b)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials, or if it would create a significant hazard through the accidental release of hazardous materials into the environment.

The Phase I and Phase II Environmental Site Assessments (ESAs) prepared in August 2018 identified lead and arsenic concentrations in soils at the northern and western portions of the project site that exceed screening levels for residential uses.[36,37] In November 2018, a voluntary oversight agreement was entered with the County of Los Angeles Fire Department Site Mitigation Unit to clean up the contaminated soils to levels that are acceptable for residential uses. A Remedial Action Plan was then prepared in September 2019 to identify the procedures that would be implemented to safely extract, store, and dispose of contaminated soils off-site. The County of Los Angeles Fire Department Site Mitigation Unit reviewed and approved implementation of the Remedial Action Plan on November 22, 2019.[38] Excavation activities to remove the impacted soil

[36]Converse Consultants, *Phase I Environmental Site Assessment, 1912 West Merced, West Covina, California*, August 2, 2018.

[37]Converse Consultants, *Phase II Environmental Site Assessment, 1912 West Merced, West Covina, California*, August 23, 2018.

[38]County of Los Angeles Fire Department, *Letter regarding 1912 West Merced Avenue (SMU File # 18-1164/RO001787)*, November 22, 2019.

were conducted in July and August 2021. A Removal Action Completion Report was prepared upon completion of the excavation activities and submitted to the Los Angeles County Fire Department Site Mitigation Unit in September 2021. The Removal Action Completion Report concluded that soil remediation activities resulted in lead and arsenic concentrations that are below screening levels and soils on the project site would have no significant risk to human health.[39]

Construction of the proposed project would involve the temporary use of potentially hazardous materials, including vehicle fuels, oils, and transmission fluids. Similarly, operations of the proposed project would involve the limited use and storage of common hazardous substances, such as cleaning supplies, pesticides, and other landscaping supplies. The use of common hazardous substances would be similar to those that are typically used for residential uses. The proposed project does not involve any industrial uses or activities that would result in the use or discharge of unregulated hazardous materials and/or substances, or create a public hazard through the transport, use, or disposal of hazardous materials. All hazardous materials during construction and operational activities would be handled in compliance with applicable standards and regulations.

As the soils on the project site has been remediated and the proposed project would comply with all applicable standards and regulations related to hazardous materials during construction and operational activities, the proposed would not create a significant hazard to the public or the environment through the transport, use, disposal, and accidental release of hazardous materials. Therefore, impacts related to the creation of hazards to the public or the environment would be less than significant.

**c)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. Edgewood High School is located within one-quarter mile of the project site. As discussed in Response to Checklist Question 3.9a-b, soil remediation activities on the project site have been completed and soils on the project site would not have a significant risk to human health. Construction of the proposed project would involve the temporary use of potentially hazardous materials (including vehicle fuels, oils, and transmission fluids), and operations of the proposed project would involve limited use of hazardous materials. The proposed project would comply with all applicable standards and regulations related to the transport, use, and disposal of hazardous materials during soil remediation, construction, and operational activities. Therefore, a less-than-significant impact would occur.

**d)** **No Impact**. A significant impact would occur if the proposed project would be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and would create a significant hazard to the public or the environment. The California Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB) each maintain a database (EnviroStor and GeoTracker, respectively) that provides access to detailed information on hazardous waste sites and their cleanup statuses. EnviroStor focuses on hazardous waste facilities and sites with known contamination or sites with possible reason for further investigation. GeoTracker focuses on sites that impact or have the potential to impact water quality in California, with an emphasis on groundwater. A search of the EnviroStor and Geotracker

[39]Converse Consultants, *Removal Action Completion Report, Merced 2 Acres, 1912 West Merced Avenue, West Covina, California*, September 17, 2021.

databases determined that the project site is not included on any list compiled pursuant to Section 65962.5 of the Government Code.[40,41] Therefore, no impact would occur.

**e)** **No Impact**. A significant impact would occur if the proposed project would be located within an airport land use plan or within two miles of a public airport or public use airport and would result in a safety hazard or excessive noise for people residing or working in the area due to the project site's proximity to a public airport or public use airport. The project site is not located in an airport land use plan area, or within two miles of any public or public use airports, or private air strips. The closest airport to the project site is San Gabriel Valley Airport, which is approximately 4.6 miles west of the project site. Therefore, the proposed project would not result in an airport- or airstrip-related safety hazard for people residing or working in the area, and no impact would occur.

**f)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The Natural Hazard Mitigation Plan (NHMP) is the City's adopted emergency response plan. It addresses the City's planned response to extraordinary emergency situations associated with man-made and natural disasters and provides a list of activities that may assist the City in reducing risk and preventing loss from natural hazard events.[42] The NHMP addresses multi-hazard issues, as well as activities from earthquakes, earth movements, flooding, wildfires, and windstorms. The proposed project would not involve any uses that would interfere with the NHMP.

The project site is not located along an emergency route. The nearest emergency disaster route near the project site are Sunset Avenue and Francisquito Avenue, approximately 0.4 miles southeast and 0.6 miles southwest, respectively, from the project site. Additionally, the proposed project is located approximately 0.4 miles south of the I-10 freeway, a freeway emergency disaster route.[43] The proposed project would not involve any uses or features that would interfere with an emergency response or evacuation plan. Although construction of the proposed project may involve temporary lane closures on Van Horn and Merced Avenue, such as to connect to the existing sewer line on Van Horn Avenue and water line on Merced Avenue, these roadways would remain accessible to vehicular traffic and emergency vehicles would still be able to travel along these roadways. Access to all surrounding properties would be maintained. Any construction activities occurring with the public right-of-way, such as construction of sidewalks and driveway approaches, and construction activities that would obstruct portions of the streets are required to obtain an engineering permit from the City As part of the engineering permit, light barricades, delineators, and traffic control personnel would be required if construction activities occur within the public right-of-way. Construction and operational activities would not require temporary or permanent closure of any streets, including designated emergency/disaster routes near the project site. Additionally, the proposed project would be reviewed by the City's Fire Department to ensure that the proposed project would not interfere with the City's NHMP or evacuation routes.

[40]Department of Toxic Substances Control, *EnviroStor*, https://www.envirostor.dtsc.ca.gov/public/, accessed July 2021.

[41]Department of Toxic Substances Control, *GeoTracker*, https://geotracker.waterboards.ca.gov/, accessed July 2021.

[42]City of West Covina, *Natural Hazard Mitigation Plan,* https://www.westcovina.org/departments/fire/disaster-preparedness/natural-hazard-mitigation-plan, accessed July 2021.

[43]County of Los Angeles Department of Public Works, *Disaster Routes*, http://dpw.lacounty.gov/dsg/disasterroutes/map/West%20Covina.pdf, accessed July 2021.

The proposed project would be designed to accommodate emergency vehicles to the project site. The proposed driveway and private drive aisles would be designed to meet the minimum width and turning dimension requirements of the West Covina Fire Department (WCFD). Vehicles, including emergency response vehicles, would be able to access the project site via Merced Avenue. Therefore, the proposed project would not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and a less-than-significant impact would occur.

**g)** **No Impact**. A significant impact would occur if the proposed project would expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires. The project site is located in an urbanized area and is surrounded primarily by residential uses and some institutional uses. The project site is not located within or adjacent to a wildland area. No large, undeveloped areas and/or steep slopes that may pose wildfire hazards are located on or near the project site. Additionally, the project site is not located in a fire hazard severity zone, as identified by the California Department of Forestry and Fire Protection (CalFire). The nearest fire hazard zone is located approximately 2.7 miles southeast of the project site.[44] The proposed project would not involve activities that would expose people or structures to the risk of loss, injury, or death involving wildland fires. Therefore, no impact would occur.

[44]California Department of Forestry and Fire Protection, *California Fire Hazard Severity Zone Viewer*, https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414, accessed July 2021.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.10 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? | ☐ | ☐ | ☑ | ☐ |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | ☐ | ☐ | ☑ | ☐ |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: | | | | |
| i) result in substantial erosion or siltation on- or off-site; | ☐ | ☐ | ☑ | ☐ |
| ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; | ☐ | ☐ | ☑ | ☐ |
| 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 | ☐ | ☐ | ☑ | ☐ |
| iv) impede or redirect flood flows? | ☐ | ☐ | ☑ | ☐ |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | ☐ | ☐ | ☑ | ☐ |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | ☐ | ☐ | ☐ | ☑ |

**a)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Construction of the proposed project would require site clearing, grading, and building construction activities. During construction, surface water quality could potentially be affected by loose soils, debris, construction wastes, and fuels that could be carried off-site by surface runoff in into local storm drains, which drain into water resources. However, the proposed project would be required to comply with all federal, state, and local regulations related to water quality standards and wastewater discharge.

The project applicant and construction contractors would be required to comply with the NPDES permit program, which was created by the Clean Water Act to address water pollution from point sources (e.g., pipes, channels, and tunnels) that discharge pollutants to the waters of the United States. The NPDES Construction General Permit is issued by the State Water Resource Control Board and enforced by the City. Construction activities subject to this permit includes clearing, grading, excavation, stockpiling, and other ground disturbances. The NPDES Construction General Permit requires the development of an SWPPP prior to the beginning of construction for construction activities that would disturb one or more acres of soil. As the proposed project would disturb 2.26 acres of land during construction, the project applicant and construction contractors would be required to prepare an SWPPP. During the plan review process, the City's Engineering Division would review the SWPPP for compliance with stormwater requirements. The project applicant and

construction contractors would also be required to implement BMPs that are required by the City's Engineering Division as part of the NPDES permit.

The project applicant and construction contractors would be required to comply with applicable regulations in Chapter 9 of the WCMC, including Article I (Drainage and Grading) and Article II (Stormwater and Urban Run-Off Pollution Control). WCMC Chapter 9, Article I, Section 9-36 also requires the preparation of an SWPPP. Compliance with the NPDES Construction General Permit and applicable regulations in the WCMC would reduce the risk of water degradation from soil erosion and other pollutants related to construction activities. The proposed project would not violate any water quality standards or waste discharge requirements during construction.

The proposed project would be required to comply with the City's standard urban stormwater mitigation plan (SUSMP) requirements, which includes LID structural and non-structural BMPs, source control BMPs, and structural and non-structural BMPs for specific types of uses. LID is a stormwater management strategy that emphasizes conservation and the use of existing natural site features integrated with stormwater controls to most closely mimic natural hydrologic patterns in residential, commercial, and industrial settings. LID controls effectively reduce the amount of impervious area of a completed project site and promote the use of infiltration and other controls that reduce runoff. Source control BMPs would prevent runoff contact with pollutant materials that would otherwise be discharged into the municipal storm drains. BMPs that are specific to housing development would address pollutant discharge that are associated with residential uses. As part of the City's SUSMP requirements, the proposed project include the installation of a detention system with infiltration to clean stormwater first flush before discharging from the project site.

As the project applicant would be required to comply with all applicable water quality standards and waste discharge requirements during construction and operations of the proposed project, impacts would be less than significant.

**b)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. The project site is not currently used for groundwater recharge activities. Furthermore, the proposed project would not install any groundwater wells and would not otherwise directly or indirectly withdraw any groundwater during construction or operations of the proposed project. The proposed project would not deplete groundwater supplies or interfere substantially with groundwater recharge. As discussed in Response to Checklist Question 3.19a, domestic water service to the project site would be provided by Suburban Water Systems, which would be able to provide reliable water supplies for an average year, single dry year, and multiple dry years for the project site through 2045. The proposed project would be served by available water supply and would not significantly deplete groundwater supplies or interfere with groundwater recharge. Therefore, a less-than-significant impact would occur.

**c.i)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would substantially alter the existing drainage pattern of the project site, including through the alteration of the course of an existing stream or river or through the addition of impervious surfaces, in a manner that would result in a substantial erosion or siltation on or off-site. The project site is located in an urbanized area of the City and is located immediately north of the Walnut Creek Wash. Existing surface water drainage from the project site generally flows southwest towards Van Horn Avenue. Surface runoff from the

project site is currently collected by an existing catch basin located at the end of the Van Horn Avenue cul-de-sac, adjacent to the project site.

The proposed project would increase the amount of impervious surfaces on the project site compared to existing conditions. However, the proposed project would install additional catch basins throughout the project site. The on-site catch basins would connect to storm drains under the private drive aisles that would convey on-site stormwater runoff towards an infiltration system to clean stormwater first flush and allow stormwater to percolate into subsurface soils. Any stormwater that is not captured by the underground infiltration system would be conveyed to the existing catch basin on Van Horn Avenue. With installation and operation of the proposed underground detention system, runoff leaving the project site would not substantially increase compared to existing conditions.

During construction, on-site soils would temporarily be exposed to surface water runoff; however, the proposed project would be required to comply with local, state, and federal regulations and standards related to minimizing potential erosion, including WCMC Chapter 9 regarding drainage and grading. The City requires that the project applicant prepare an erosion control plan and that the construction contractor implement erosion control measures during ground disturbing activities. Therefore, the proposed project would not substantially alter the existing drainage pattern of the project site in a manner that would result in substantial erosion or siltation, and less-than-significant impacts would occur.

**c.ii)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would substantially alter the existing drainage pattern of the project site, including through the alteration of the course of an existing stream or river or through the addition of impervious surfaces, in a manner that would substantially increase the rate or amount of surface runoff and would result in flooding on- or off-site. The project site is located within an urbanized area of the City with existing stormwater infrastructure in place. Runoff from the project site is currently collected by an existing catch basin located at the end of the Van Horn Avenue cul-de-sac adjacent to the project site, which drains into the adjacent Walnut Creek Wash.

As discussed in Response to Checklist Question 3.10c.i, the proposed project would increase the amount of impervious surfaces on the project site compared to existing conditions. However, additional catch basins would be installed throughout the project site that would connect to storm drains under the proposed on-site drive aisles. On-site stormwater runoff would be conveyed towards an infiltration system that would clean stormwater first flush and allow stormwater to percolate into the subsurface soils. Any stormwater that is not captured by the underground infiltration system would be conveyed to the existing catch basin on Van Horn Avenue. With installation and operation of the proposed underground detention system, stormwater runoff would not increase in a manner that would result in flooding on- or off-site. Therefore, a less-than-significant impact would occur.

**c.iii)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would increase the rate or amount of surface runoff in a manner which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. As discussed in Response to Checklist Question 3.10a, the proposed project would be required to comply with all federal, state, and local regulations related to water quality standards and wastewater discharge, including Chapter 9 of the WCMC regarding drainage and grading. Construction contractors would be required to obtain coverage under the NPDES Construction General Permit. An SWPPP would be prepared for the proposed project and would include BMPs to limit the amount of polluted runoff that enter the stormwater drainage system. Compliance with applicable

regulations and requirements in the SWPPP would ensure that during construction, impacts related to creating or contributing to runoff that would exceed the capacity of the City's existing storm drain system or provide additional sources of polluted runoff would be less than significant.

Operation of the proposed project would not increase stormwater runoff in a manner that would exceed the capacity of the existing stormwater drainage system within the public rights-of-way or provide substantial additional sources of polluted runoff. As discussed in Response to Checklist Questions 3.10c.i and 3.10c.ii, the proposed project would install additional catch basins on the project site that would connect to storm drains under the proposed on-site drive aisles. On-site stormwater runoff would be conveyed towards an infiltration system that would clean stormwater first flush and allow stormwater to percolate into the subsurface soils. Any stormwater that is not captured by the underground infiltration system would be conveyed to the existing catch basin on Van Horn Avenue. The proposed infiltration system would limit the amount of stormwater runoff that leaves the project site. Therefore, less-than-significant impacts would occur.

**c.iv) Less-Than-Significant Impact**. A significant impact would occur if the proposed project would substantially alter the drainage pattern in a manner that would impede or redirect flood flows. The project site is designated as Zone X (shaded) by the Federal Emergency Management Agency (FEMA), which is an area subject to flooding from the 500-year flood (0.2 percent annual chance of flooding).[45] As discussed in Response to Checklist Questions 3.10c.i and 3.10c.ii, the proposed project would install additional catch basins on the project site that would connect to storm drains under the proposed on-site drive aisles. On-site stormwater runoff would be conveyed towards an infiltration system that would clean stormwater first flush and allow stormwater to percolate into the subsurface soils. Any stormwater that is not captured by the underground infiltration system would be conveyed to the existing catch basin on Van Horn Avenue. With installation and operation of the proposed underground detention system, stormwater runoff would not increase in a manner that would exceed the capacity of the existing stormwater drainage system within the public rights-of-way. Therefore, the proposed project would not alter the project site's drainage patterns in a manner that would impede or redirect flood flows, and a less-than-significant impact would occur.

**d) Less-Than-Significant Impact**. A significant impact would occur if the proposed project is in a flood hazard, tsunami, or seiche zone and would risk the release of pollutants due to project inundation. A seiche is an oscillation of a body of water in an enclosed or semi-enclosed basin, such as a reservoir, harbor, or lake. A tsunami is a sea wave produced by a significant undersea disturbance. Mudflows result from the down-slope movement of soil and/or rock under the influence of gravity. The project site is not located near a body of water that is large enough to create a seiche during a seismic event. The project site is located approximately 29 miles east of the Pacific Ocean and is not within a coastal zone or tsunami inundation area. As discussed in Response to Checklist Question 3.10c.iv, the project site is subject to flooding from the 500-year flood (0.2 percent annual chance of flooding). According to the City's Natural Hazard Mitigation Plan, the project site is subject to potential inundation in the event of dam failure at the Puddingstone Dam or San Dimas Dam.[46] However, it is unlikely for inundation to occur due to dam failure and, in accordance

[45]Federal Emergency Management Agency, *FEMA Flood Map Service Center*, https://msc.fema.gov/portal/search?AddressQuery=1912%20merced%2C%20west%20covina#searchresultsanchor, accessed July 2021.

[46]City of West Covina, *Natural Hazard Mitigation Plan, Section 8: Flood*, https://www.westcovina.org/departments/fire/disaster-preparedness/natural-hazard-mitigation-plan/section-8-flood, accessed July 2021.

with California Water Code Section 6160, each dam is required to have an Emergency Action Plan in place to guide emergency response in case of dam failure. The proposed project would not involve the regular use or storage of large quantities of hazardous materials. While there is little that can be done if the project site is flooded, the risk of releasing pollutants during flooding would be consistent with the existing risks for the project site and its surrounding area. The proposed project does not involve uses or activities that would exacerbate this risk. Therefore, less-than-significant impacts would occur.

**e)** **No Impact**. A significant impact would occur if the proposed project would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The project site is located in the San Gabriel River watershed, which is regulated by the Los Angeles Regional Water Quality Control Board (LARWQCB). Water quality standards for the Los Angeles region, including the San Gabriel River watershed, are set forth in the *Water Quality Control Plan: Los Angeles Region Basin Plan* (Basin Plan), which was last updated in 2014. The Basin Plan establishes water quality objectives to protect the valuable uses of surface waters and groundwater within the Los Angeles region. Under Section 303(d) of the Clean Water Act, the Basin Plan is intended to protect surface waters and groundwater from both point and nonpoint sources of pollution within the project area and identifies water quality standards and objectives that protect the beneficial uses of various waters. In order to meet the water quality objectives established in the Basin Plan, LARWQCB established total maximum daily loads, which are implemented through stormwater permits. As discussed in Response to Checklist Question 3.10a, the proposed project would be required to comply with applicable regulations associated with water quality. Compliance with these regulations would ensure that the proposed project would be consistent with the Basin Plan.

The City is underlain by the San Gabriel Valley Groundwater Basin and approximately 80 percent of the City's potable water is from the local groundwater basin. The Sustainable Groundwater Management Act requires local public agencies and groundwater sustainability agencies in high- and medium-priority basins to develop and implement groundwater sustainability plans (GSPs) or alternatives GSPs. GSPs are detailed road maps for how groundwater basins will reach long term sustainability. The project site is located in a very low-priority basin and, to date, no sustainable groundwater management plan has been developed for this groundwater basin.[47]

The proposed project would not conflict with or obstruct implementation of the Basin Plan. Therefore, impacts related to water quality control plans or sustainable groundwater management plans would be less than significant.

[47]California Department of Water Resources, *SGMA Basin Prioritization Dashboard*, https://gis.water.ca.gov/app/bp-dashboard/final/, accessed July 2021.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.11 LAND USE AND PLANNING.** Would the project: | | | | |
| a) Physically divide an established community? | ☐ | ☐ | ☐ | ☑ |
| 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? | ☐ | ☐ | ☑ | ☐ |

**a)** **No Impact**. A significant impact would occur if the proposed project would physically divide an established community. The project site is located within an urbanized area surrounded by primarily residential uses and some institutional uses. Walnut Creek Wash borders the southern end of the project site. The project site and its surrounding uses are served by existing roadways. No street closures would result with implementation of the proposed project. Merced Avenue and Van Horn Avenue would continue to provide vehicular access to the project site and the surrounding area. Pedestrian access would be maintained on the sidewalks along public roads surrounding the project site. Access to all uses would not be disrupted. The proposed project does not include any elements that would physically divide or block access to or through the community, and no separation of uses or disruption of access between land use types would occur as a result of the proposed project. Therefore, no impact would occur.

**b)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project conflicts with applicable land use plans, policies, or regulations in a manner that would result in a significant environmental impact. The project site has an existing General Plan land use designation of Neighborhood Low Density Residential (NL) and is zoned Single-Family Residential (R-1, Area District 1). The proposed project would construct 39 townhomes and would result in a density of 17.2 dwelling units per acre, which are not permitted in a NL designated area and R-1 zone. Additionally, the building height of 28 feet for the proposed townhomes and maximum building height limit of 30 feet for the proposed The Grove at Merced Specific Plan are not permitted in an R-1 zone. To comply with the City's General Plan designation and zoning, the proposed project would require a General Plan Amendment to change the General Plan land use designation to Neighborhood Medium Density Residential (NM) and a zone change to Specific Plan (S-P). The NM designation allows for densities of 9 to 20 dwelling units per acre. According to WCMC Section 26-547, the purpose of the S-P zone is to provide greater specificity and flexibility in carrying out the General Plan of the City than would be possible in other zones. The uses, types of development, and development standards in an S-P zone are those permitted by the specific plan adopted for that area. The uses and types of development proposed in the S-P zone is required to maintain and enhance the character of the surrounding area, as well as integrate with the surrounding uses. The Grove at Merced Specific Plan has been prepared to be compatible with the surrounding uses. Elements addressed in the proposed specific plan includes orientation of buildings and uses, building bulk and scale, building height and setback, parking, and landscaping. If The Grove at Merced Specific Plan is approved by the City, the Specific Plan would serve as the zoning for the project site and future development on the project site would be required to be consistent with the regulations and standards in the Specific Plan, including land use, development and design standards, infrastructure, and utilities. Any situation not specifically addressed by the proposed Specific Plan would be subject to the requirements of the WCMC, provided that such regulations are not in conflict with the objectives of the proposed Specific Plan.

The West Covina General Plan, adopted by City Council in December 2016, is organized into the following elements: Our Natural Community (conservation/open space), Our Prosperous Community (economic development), Our Well Planned Community (land use/design, housing, parks and recreation), Our accessible community (circulation), Our Resilient Community (land use), Our Healthy and Safe Community (public health, safety, noise, and land use), Our Active Community (land use, open space, parks and recreation), and Our Creative Community (culture). The Housing Element was adopted under a separate cover on October 1, 2013 and was amended on December 20, 2016.[48] Each element contains the City's goals and policies related to that element. California Government Code Section 65454 requires specific plans to be consistent with the General Plan. **Table 3-6** evaluates how the proposed project would be consistent with the applicable goals and policies of the West Covina General Plan. As shown, the proposed project would be consistent with the City's General Plan.

**TABLE 3-6: GENERAL PLAN CONSISTENCY ANALYSIS**

| Goal/Policy | Consistency Analysis |
|---|---|
| **OUR NATURAL COMMUNITY** | |
| **Goal:** To live in balance with our natural environment by preserving the existing open spaces, improving the quality of natural resources, and greater access to open space. | **Consistent:** The proposed project would include two pocket parks and amenities for outdoor dining and passive recreation, such as barbeque grills and picnic tables. The proposed pocket parks and outdoor amenities would provide future residents of the project site access to recreational uses and would reduce demand on public parks. Additionally, the proposed project would be required to pay development impact fees, which would contribute funding for public parks and recreational facilities. |
| **Policy P1.1:** Promote alternative transportation modes like walking, biking, and transit that reduce emissions related to vehicular travel. | **Consistent:** The proposed project would provide landscaping along the perimeter of the project site and would remove the existing unutilized driveways along Van Horn Avenue to provide a continuous sidewalk along the street, making the street more pedestrian friendly. The pedestrian pathways within the project site would connect to the sidewalks on Van Horn and Merced Avenues. The proposed project would also be within walking distance of the Foothill Transit Line 272 bus stop, approximately 320 feet southeast of the project site on Merced Avenue. |
| **Policy P1.3:** Minimize the adverse impacts of growth and development on air quality and climate. | **Consistent:** Growth and development from the proposed project would not adversely affect air quality and the climate. As discussed in Section 3.3 Air Quality, the proposed project would not exceed any of the applicable SCAQMD significance thresholds. The proposed project would not result in cumulative considerable net increase of non-attainment pollutants and would not expose sensitive receptors to substantial pollutant concentrations. As discussed in Response to Checklist Question 3.8a, GHG emissions associated with proposed project construction and operations would be below the SCAQMD screening threshold value of 3,000 $MTCO_2e$ per year. |

[48]City of West Covina, *2014-2021 Housing Element*, adopted October 1, 2013, amended December 20, 2016.

| TABLE 3-6: GENERAL PLAN CONSISTENCY ANALYSIS | |
|---|---|
| **Goal/Policy** | **Consistency Analysis** |
| **Policy P1.4:** Continue to protect areas of beneficial natural groundwater recharge by preventing uses that can contaminate soil or groundwater. | **Consistent:** The proposed project does not include uses that would contaminate soil or groundwater. The proposed project would install an underground infiltration system that would clean stormwater first flush and allow stormwater to percolate into the subsurface soils. |
| **Policy P1.5:** Where appropriate, new development shall minimize impervious area, minimize runoff and pollution, and incorporate best management practices. | **Consistent:** As discussed in Section 3.10 Hydrology and Water Quality, the proposed project would comply with the NPDES Construction General Permit and WCMC Chapter 9, as well as implement LID and BMPs, to reduce the amount of runoff and pollution. Additionally, the proposed project would install an underground infiltration system that would clean stormwater first flush, allow stormwater to percolate into the subsurface soils and reduce runoff. |
| **Policy P1.6:** Preserve, conserve, and add to public open space. | **Consistent:** The proposed project would include two pocket parks and outdoor amenities that would provide future residents of the project site access to recreational uses and would reduce demand on public parks. Additionally, the proposed project would be required to pay development impact fees, which would contribute funding for public parks and recreational facilities. |
| **Policy P1.9:** During the review of public and private development projects, analyze potential impacts to views of natural areas from public streets, parks, trails, and community facilities. | **Consistent:** The project site and its surrounding area, including Van Horn and Merced Avenues, do not have unobstructed views of natural areas. No parks, trails, and community facilities are within the viewshed of the project site. Potential impacts on scenic vistas are provided in Response to Checklist Question 3.1a. As discussed, no impacts occur since no scenic vistas are available on the project site and its surrounding area. |
| **Policy P1.10:** To preserve nighttime views within and immediately adjacent to single-family residential zones, require property owners within and directly adjacent to these zones to utilize shielding and directional lighting methods to direct lighting away from adjoining properties. | **Consistent:** As discussed in Response to Checklist Question 3.1d, the proposed project would comply with WCMC lighting standards, including WCMC Section 26-519, which requires that lights be hooded and directed away from adjoining properties. |
| **Policy P1.11:** Plant to maximize the social, economic, and environmental benefits of trees. | **Consistent:** As discussed in Response to Checklist Question 3.4e, although the proposed project would remove 51 trees on the project site and three street trees on Merced Avenue, a total of 81 new trees would be installed on the project site. The trees would be 24-inch box trees. |
| **OUR PROSPEROUS COMMUNITY** | |
| **Policy P2.6:** Create a diversity of housing options. | **Consistent:** The proposed project would create new housing opportunities by developing 39 townhomes on the project site, contributing to the City's existing housing stock. |
| **OUR WELL PLANNED COMMUNITY** | |
| **Policy P3.1**: Preserve existing housing stock. | **Consistent:** The project site is vacant and adjacent to a single-family residential neighborhood. The proposed project would be an infill development that would revitalize an underutilized property with new townhomes. The Grove at Merced Specific Plan would include development and design standards to maintain and enhance the character of, as well as integrate with, the surrounding residential uses. |
| **Policy P3.3:** New growth will complete, enhance, and reinforce the form and character of the unique West Covina neighborhoods, districts, and corridors. | |

| TABLE 3-6: GENERAL PLAN CONSISTENCY ANALYSIS | |
|---|---|
| **Goal/Policy** | **Consistency Analysis** |
| **Policy P3.6:** Reduce West Covina's production of GHG emissions, contribution to climate change, and adapt to the effects of climate change. | **Consistent:** As discussed in Section 3.8 Greenhouse Gas Emissions, GHG emissions associated with proposed project construction and operations would be below the SCAQMD screening threshold value of 3,000 $MTCO_2e$ per year. Additionally, the proposed project would be consistent with applicable plans, policies, and regulations associated with reducing GHG emissions, including SB 375, SB 743, SCAG SCS, City of West Covina Energy Action Plan, CalGreen, and the City's General Plan policies related to the reduction of GHG emissions. |
| **OUR ACCESSIBLE COMMUNITY** | |
| **Goal:** To provide safe access for all users – pedestrians, cyclists, public transit users, and motorists – of all ages and abilities. Design streets that consider both the existing and future context of transportation and land use and seek to be in harmony with the adjacent area's history, environmental resources, and overall aesthetic. | **Consistent:** The streets adjacent to the project site would not be modified by the proposed project. The proposed project would remove the existing unutilized driveways along Van Horn Avenue to provide a continuous sidewalk along the street for pedestrians. The pedestrian pathways within the project site would connect to the sidewalks on Van Horn and Merced Avenues. The proposed project would also be within walking distance of the Foothill Transit Line 272 bus stop, approximately 320 feet southeast of the project site on Merced Avenue. Residents can access this bus stop using existing sidewalks and crosswalks. |
| **Policy P4.5:** Work to eliminate barriers to pedestrian and bicycle travel. | **Consistent:** The proposed project would not create new barriers to pedestrians and bicyclists. The proposed project would remove the existing unutilized driveways along Van Horn Avenue to provide a continuous sidewalk along the street for pedestrians. On-site pedestrian pathways would connect to public sidewalks, facilitating pedestrian access. |
| **OUR RESILIENT COMMUNITY** | |
| **Goal:** Support development pattern and support systems that yield a resilient low-carbon built environment. | **Consistent:** The proposed project is an infill development that would revitalize an underutilized property with new townhomes. As discussed in Response to Checklist Question 3.8a, GHG emissions associated with proposed project construction and operations would be below the SCAQMD screening threshold value of 3,000 $MTCO_2e$ per year. |
| **Policy P5.1:** Promote fine-grained network of complete streets in new and redevelopment projects. | **Consistent:** The proposed project would provide drive aisles that would allow vehicular access to the garage of each townhome unit. Pedestrian pathways would also be provided throughout the project site to allow pedestrians to access each townhome unit, on-site outdoor amenity space, and on-site pocket parks. The pedestrian pathways would connect to the sidewalks along Van Horn and Merced Avenues, facilitating pedestrian access to the project site. Additionally, the existing unutilized driveways along Van Horn Avenue would be removed to provide a continuous sidewalk along the street for pedestrians. |

| TABLE 3-6: GENERAL PLAN CONSISTENCY ANALYSIS | |
|---|---|
| **Goal/Policy** | **Consistency Analysis** |
| **Policy P5.4:** Buildings, lots, and blocks primarily scaled around the pedestrian and transit, creating a human-scaled spatial enclosure. Buildings should be informed by surrounding physical context, the adjacent landscapes, structures, local conditions, building traditions, and the microclimate. | **Consistent:** The orientation of the proposed buildings, pedestrian pathways, and landscaping would be designed to be pedestrian friendly. Front entry doors to each townhome unit would be oriented towards Van Horn and Merced Avenues, on-site pedestrian pathway, or a gathering space. Each townhome unit facing Van Horn Avenue or Merced Avenue would have a walkway that provides direct pedestrian access to the public sidewalks. On-site pedestrian pathways would also connect to the public sidewalks adjacent to the project site, facilitating pedestrian access. Landscaping would be placed along the proposed pathways and along the perimeter of the project site. |
| **Policy P5.6:** Continue existing beneficial energy conservation programs, including adhering to the California Energy Code in new construction and major renovations. | **Consistent:** The proposed project would be designed to comply with the latest California Energy Code, including but not limited to the installation of photovoltaic panels, energy efficient appliances, and insulation. |
| **Policy P5.8:** Ensure provision of adequate sewer system capacities to serve existing and planned development. | **Consistent:** The proposed project would install sewer lines under the private drive aisles, which would connect to the existing sewer system under Van Horn Avenue. The existing sewer system has adequate capacity to serve the proposed project. |
| **Policy P5.9:** Provide adequate facilities and services for the collection, transfer, recycling, and disposal of refuse. | **Consistent:** Athens would provide waste collection services for the proposed project. Solid waste carts or bins would be provided for each dwelling unit. As discussed in Response to Checklist Question 3.19a, the proposed project would be adequately served by the City's solid waste provider. |
| **OUR HEALTHY AND SAFE COMMUNITY** | |
| **Policy P6.1:** Promote and support transportation decisions that reduce driving and increase rates of transit use, walking, and biking. | **Consistent:** Pedestrian pathways would be provided throughout the project site to allow pedestrians to access each townhome unit, on-site outdoor amenity space, and on-site pocket parks. The pedestrian pathways would connect to the sidewalks along Van Horn and Merced Avenues, facilitating pedestrian access to the project site. Additionally, the existing unutilized driveways along Van Horn Avenue would be removed to provide a continuous sidewalk along the street for pedestrians. The proposed project would be within walking distance of the Foothill Transit Line 272 bus stop, approximately 320 feet southeast of the project site on Merced Avenue. Residents can access this bus stop using existing sidewalks and crosswalks. |
| **Policy P6.2:** New and renovated buildings should be designed and constructed to improve the health and residents, workers, and visitors. | **Consistent:** Proposed buildings would have pedestrian entrances oriented towards on-site pedestrian pathways and sidewalks along Van Horn and Merced Avenues. Landscaping would be provided along the proposed pathways and along the perimeter of the project site adjacent to the public sidewalks, creating a pedestrian-friendly environment. |
| **Policy P6.6:** Improve bike and pedestrian safety for all ages. | **Consistent: T**he existing unutilized driveways along Van Horn Avenue would be removed to provide a continuous sidewalk along the street for pedestrians. The removal of the unutilized driveways would improve pedestrian safety. |

| TABLE 3-6: GENERAL PLAN CONSISTENCY ANALYSIS | |
|---|---|
| **Goal/Policy** | **Consistency Analysis** |
| **Policy P6.12:** Address safety during development review process. | **Consistent:** The proposed project would be submitted to West Covina Police Department (WCPD) Crime Prevention unit for review and appropriate on-site features would be installed if required by WCPD. Additionally, the proposed project would be designed following the Crime Prevention through Environmental Design principles, such as having front doors and windows facing streets or common areas to enhance surveillance and landscape design that would not impede visibility. Fences and walls would be provided for safety. |
| **Policy P6.14:** Address fire-prevention during development review process. | **Consistent:** The proposed project would be constructed to comply with the requirements of the City's Fire Code. The proposed private drive aisles would be designed to meet the minimum width and turning dimensions as required by WCFD. Additionally, all buildings would be constructed to meet the current building code requirements for fire safety. The applicant would be required to submit project plans to WCFD and incorporate WCFD fire protection and suppression features that are appropriate for the proposed project. |
| **Policy 6.15:** Limit the exposure to potential natural hazards through adoption and enforcement of appropriate building standards, land use controls, and environmental review. | **Consistent:** As discussed in Section 3.7 Geology and Soils, the proposed project would conform to the California Building Code and all other applicable codes and standards to reduce impacts from potential natural hazards, such as strong seismic ground shaking. The project site is not located in a liquefaction hazard zone, landslide area, or fire hazard severity zone. The potential for the project site to contain expansive soils is low. Recommendations from the site-specific geotechnical study would be implemented to maintain structural integrity of the proposed buildings. |
| **Policy 6.16:** Take actions to reduce the potential for loss of life or property in areas of high seismic risk and areas subject to landslide and liquefaction hazards. | |
| **Policy P. 6.23:** Ensure that new development is not exposed to excessive noise. | **Consistent:** The proposed project is located in a residential area, and noise levels on the project site are typical for a residential neighborhood. The proposed project would not expose residents to excessive noise. Additionally, as discussed in Section 3.13 Noise, the proposed project does not involve uses that would generate excessive noise levels and, thus, would not expose surrounding uses to excessive noise |
| **Policy P6.24:** Ensure that new development does not expose surrounding land uses to excessive noise. | |
| **Policy 6.25:** Minimize noise conflicts between local noise generators and sensitive receivers. | **Consistent:** As discussed in Response to Checklist Question 3.13a, construction of the proposed project may result in noise levels that would be disruptive to nearby residences; however, implementation of Mitigation Measures **N1** through **N4** would reduce construction noise levels at nearby sensitive receptors, including nearby residences. These mitigation measures would minimize noise conflicts during construction activities. Operations of the proposed project are not expected to cause ambient noise levels at sensitive receptors to increase to a noticeably level. |

| TABLE 3-6: GENERAL PLAN CONSISTENCY ANALYSIS | |
|---|---|
| **Goal/Policy** | **Consistency Analysis** |
| **OUR CREATIVE COMMUNITY** | |
| **Policy P7.7:** Assess, avoid, and mitigate potential impacts to archeological, paleontological, and tribal resources through the CEQA review process for development projects carried out within the City. Comply with existing regulations related to Native American resources, including CEQA Sections 15064.5(d) and (e) and PRC Section 5097.98 concerning burial grounds, and AB 52 and SB 18 for consultation with Native American tribes for development projects carried out within the City. | **Consistent:** Potential impacts on archeological, paleontological, and tribal resources are addressed in Response to Checklist Questions 3.5(b), 3.7(f), and 3.18(a-b). As discussed in Response to Checklist Question 3.5(c), Mitigation Measures **CR-1**, **CR-2**, **GS-1**, and **GS-2** are provided to reduce the potential for destruction of any significant archaeological and paleontological resources. In accordance with AB 52 and SB18, California Native American tribes traditionally and culturally affiliated with the geographic area of the project site were notified of the proposed project on January 12, 2022. The Gabrieleno Band of Mission Indians - Kizh Nation responded and recommended that mitigation measures be imposed on the project site to ensure that any inadvertent discovery of tribal cultural resources encountered during ground-disturbing activities are properly documented, salvaged, and protected. Mitigation Measures **TR-1** through **TR-3** are provided to ensure that any inadvertent discovery of tribal cultural resources during ground-disturbing activities is protected. If human remains of Native American origin are discovered on the project site, the proposed project would comply with all applicable regulations pertaining to Native American resources, including CEQA Section 15064.5(d) and (e) and PRC Section 5097.98. |
| **OUR ACTIVE COMMUNITY** | |
| **Policy P8.1:** Encourage the distribution of a variety of park types and sizes throughout the City. | **Consistent:** The proposed project would provide two pocket parks and an outdoor amenity space on the project site. The outdoor amenity space would include amenities for outdoor dining and passive recreation, such as barbeque grills and picnic tables. The pocket parks and outdoor amenity space would be located at the southwestern corner and southern portion of the project site. These open space areas would be connected by pedestrian pathways. |
| **Policy P8.2:** Encourage the development of non-traditional park types, including green belts, linear parks, urban trails, and pocket parks. | |
| **Policy P8.4:** Small and frequent open spaces should be dispersed throughout the neighborhood. | |
| **HOUSING ELEMENT** | |
| **Goal 1:** Maintain and enhance the quality of existing housing and residential neighborhoods in West Covina. | **Consistent:** See Our Well Planned Community Policy P3.1. |
| **Goal 2:** Provide a variety of housing types to accommodate all economic segments of the City. | **Consistent:** The proposed project would create new housing opportunities by developing 39 townhomes on the project site, contributing to the existing housing stock in the City to meet the needs of the community. |

| TABLE 3-6: GENERAL PLAN CONSISTENCY ANALYSIS | |
|---|---|
| **Goal/Policy** | **Consistency Analysis** |
| **Goal 4:** Promote equal housing opportunity for all residents. | **Consistent:** The proposed project would allow anyone, regardless of age, race, religion, family status physical disability, ethnic background, or any other characteristics to live within the community. The proposed project would be located on a vacant property and would not displace any residents. |
| **Policy 4.1:** Continue to enforce fair housing laws prohibiting discrimination in the building, financing, selling, or renting of housing on the basis of race, ethnicity, ancestry, national origin, religion, sex, disability, age, marital status, familial status, source of income, sexual orientation, or any other arbitrary factor. | |
| **Policy 4.3:** Provide that displacement of low-income households is avoided and, where necessary, is carried out in an equitable manner. | |
| **Goal 5:** Identify adequate sites to achieve housing variety. | **Consistent:** See Our Well Planned Community Policy P3.1. |
| **Policy 5.1:** Provide for a range of residential development types in West Covina, including low density single-family homes, moderate density townhomes, higher density multi-family units, and residential/commercial mixed use in order to address the City's share of regional housing needs. | |
| **Source:** TAHA, 2021 | |

The proposed project would be subject to the approval by the City and would be reviewed for approval by the Planning Commission as part of the discretionary review process for a precise plan, zone change, specific plan, General Plan amendment, tentative tract map, and tree removal permit. The regulatory procedures provide the City with further assurances for review and opportunities to incorporate additional conditions to ensure that the proposed project would improve the character and condition of the project site. With approval of the requested discretionary actions, the proposed project would be consistent with the City's General Plan and WCMC, and the proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation. Therefore, a less-than-significant impact would occur.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.12 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? | ☐ | ☐ | ☐ | ☑ |
| 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? | ☐ | ☐ | ☐ | ☑ |

**a-b) No Impact**. A significant impact would occur if the proposed project would result in the loss of availability of known mineral resources of regional value and residents of the state, or result in the loss of a locally important mineral resource recovery site as delineated on a local general plan, specific plan, or other land use plan. The project site is vacant but was previously developed with a school. The surrounding area consists of residential and institutional uses. The project site is not located within a mineral producing area as classified by the California Geological Survey and is not identified by the City of West Covina as containing significant mineral deposits site that would be of value to the region and the residents of the state. Furthermore, the project site is not located near any oil fields, and no oil extraction and/or quarry activities have historically occurred on or are presently conducted at the project site. Therefore, the proposed project would not result in the loss of availability of any known regionally valuable or locally important mineral resource, and no impact would occur.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.13 NOISE.** Would the project: | | | | |
| 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? | ☐ | ☑ | ☐ | ☐ |
| b) Generation of excessive ground-borne vibration or ground-borne noise levels? | ☐ | ☐ | ☑ | ☐ |
| 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, expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☑ |

**a) Less-Than-Significant Impact with Mitigation Incorporated**. Sound is technically described in terms of the loudness (amplitude) and frequency (pitch). The standard unit of measurement for sound is the decibel (dB). The human ear is not equally sensitive to sound at all frequencies. The A-weighted scale, abbreviated dBA, reflects the normal hearing sensitivity range of the human ear.

Noise is generally defined as unwanted sound. The degree to which noise can impact the human environment ranges from levels that interfere with speech and sleep (annoyance and nuisance) to levels that cause adverse health effects (hearing loss and psychological effects). Human response to noise is subjective and can vary greatly from person to person. Factors that influence individual response include the intensity, frequency, and pattern of noise, the amount of background noise present before the intruding noise, and the nature of work or human activity that is exposed to the noise source.

Studies have shown that the smallest perceptible change in sound level for a person with normal hearing sensitivity is approximately 3 dBA. A change of at least 5 dBA would be noticeable and may evoke a community reaction. A 10-dBA increase is subjectively heard as a doubling in loudness and would likely cause a negative community reaction. Noise levels decrease as the distance from the noise source to the receiver increases. Noise levels generated by a stationary noise source, or "point source," will decrease by approximately 6 dBA over hard surfaces (e.g., pavement) for each doubling of the distance. For example, if a noise source produces a noise level of 89 dBA at a reference distance of 50 feet, then the noise level would be 83 dBA at a distance of 100 feet over hard surface from the noise source, 77 dBA at a distance of 200 feet, and so on. Noise levels generated by a mobile source will decrease by approximately 3 dBA over hard surfaces for each doubling of the distance.

$L_{eq}$ is the average noise level on an energy basis for any specific time period. The $L_{eq}$ for one hour is the average energy noise level during the hour. The average noise level is based on the energy content (acoustic energy) of the sound. $L_{eq}$ can be thought of as the level of a continuous noise which has the same energy content as the fluctuating noise level. The equivalent noise level is expressed in units of dBA.

### *Summary of Applicable Noise Regulations/Standards*

The City has established noise standards to control unnecessary, excessive and annoying noise. The standards are codified in WCMC Article IV (Noise Regulations). Noise created by radios, television sets, and similar devices is regulated by WCMC Section 15-94 (Radios, television sets, and similar devices). The WCMC states that between the hours of 10:00 p.m. on one day and 7:00 a.m. of the following day, it is unlawful to use or operate any radio receiving set, musical instrument, phonograph, television set, or other machine or device for the producing or reproducing of sound or any device by which voice, music, or any other sound is amplified, in such a manner as to create any noise which causes the noise level at the property line of any property (or if a condominium or apartment house, within any adjoining unit or apartment), building, structure or vehicle to be plainly audible at a distance of 50 feet.

Construction noise is governed by WCMC Section 15-95 (Construction and Building Projects), which prohibits the use of construction tools, equipment, or the performance of any outside construction on buildings, structures, or projects within 500 feet of a residential zone which would cause the ambient noise level to be exceeded by 5 dB as measured at property lines, except for the hours of 7:00 a.m. to 8:00 p.m. Unloading and loading activity is prohibited within 500 feet of a residential zone, except for the hours of 6:00 a.m. to 8:00 p.m.

The City's General Plan Noise Element provides guidance on improving the safety and health of the community and abatement of excessive noise. The General Plan outlines land use compatibility standards as a guideline for locating new land uses, which have been adopted from the California Office of Noise Control. Policy 6.24 of the General Plan Noise Element requires that new developments analyze potential noise impacts on nearby noise sensitive receptors and require noise mitigation to address any identified significant impacts, as feasible.

### *Existing Noise Levels*

Noise-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise-sensitive and may warrant unique measures for protection from intruding noise. A distance of 500 feet is generally used as the screening distance for noise in an existing urban environment. Noise sensitive receptors within 500 feet of the project site include:

- Residences approximately 50 feet to the west;
- Residences approximately 100 feet to the northeast;
- Residences approximately 200 feet to the west;
- Residences approximately 300 feet to the northeast;
- Church of Jesus Christ of Latter-day Saints approximately 350 feet to the southwest;
- Residences approximately 400 feet to the northeast;
- Residences approximately 400 feet to the northwest; and
- Residences approximately 440 feet to the south.

Edgewood High School was not included as a noise sensitive receptor as the only school-related uses within 500 feet of the project site are athletic fields, which are not sensitive to noise. The nearest noise-sensitive use on campus (i.e., classrooms) are approximately 920 feet south of the project site and, given the distance from the project site, would not

be adversely affected by proposed project-related noise as other noise sensitive receptors that are closer to the project site.

To characterize the existing noise environment around the project site, short-term noise measurements were taken using a SoundPro DL Sound Level Meter on Thursday, September 2, 2021 between 11:00 a.m. and 1:30 p.m. Hourly noise levels within the project area ranged from 47.9 dBA $L_{eq}$ to 68.7 dBA $L_{eq}$. Roadway noise was the most significant source of noise in the area. Monitoring locations and existing noise levels are shown in **Table 3-7**.

**TABLE 3-7: EXISTING AMBIENT NOISE LEVELS**

| Noise Monitoring Location | Sound Level (dBA, $L_{eq}$) |
|---|---|
| Residence (1221 Van Horn Ave.) | 47.9 |
| Residence (1220 Sunkist Ave.) | 52.1 |
| Residence (1911 Merced Ave.) | 68.7 |
| Residence (1822 Devers St.) | 51.5 |
| Residence (1143 Van Horn Ave.) | 54.0 |
| **SOURCE**: TAHA, 2021 | |

### *Construction Noise*

Construction activities typically require the use of numerous pieces of noise-generating equipment. Typical noise levels from various types of equipment that may be used during each construction phase are listed in **Table 3-8**. Due to the use of noise-generating equipment, construction activities would result in temporary increases in ambient noise levels in the project area on an intermittent basis. Noise levels would fluctuate depending on the construction phase, equipment type and duration of use, distance between the noise source and receptor, and presence or absence of noise attenuation barriers. **Table 3-9** shows the typical overall noise level during each construction phase. The construction noise levels take into account the likelihood that multiple pieces of construction equipment would be operating simultaneously. When considered as an entire process with multiple pieces of equipment operating at the same time, demolition activity would generate the loudest noise level of approximately 84.2 dBA $L_{eq}$ at 50 feet.

**TABLE 3-8: CONSTRUCTION EQUIPMENT NOISE LEVEL RANGES**

| Construction Equipment | Noise Level at 50 feet (dBA, $L_{eq}$) |
|---|---|
| **DEMOLITION PHASE** | |
| Concrete Saw | 82.6 |
| Dozer | 77.7 |
| Backhoe | 73.6 |
| **SITE PREPARATION** | |
| Grader | 81.0 |
| Dozer | 77.7 |
| Backhoe | 73.6 |
| **EXCAVATION PHASE** | |
| Grader | 81.0 |
| Dozer | 77.7 |
| Backhoe | 73.6 |

| TABLE 3-8: CONSTRUCTION EQUIPMENT NOISE LEVEL RANGES | |
|---|---|
| **Construction Equipment** | **Noise Level at 50 feet (dBA, $L_{eq}$)** |
| **BUILDING CONSTRUCTION PHASE** | |
| Crane | 72.6 |
| Forklift | 79.4 |
| Generator | 77.6 |
| Backhoe | 73.6 |
| Welder | 70.0 |
| **PAVING PHASE** | |
| Concrete Mixer Truck | 74.8 |
| Paver | 74.2 |
| Roller | 73.0 |
| Backhoe | 73.6 |
| **ARCHITECTURAL COATING PHASE** | |
| Air Compressor | 73.7 |
| **SOURCE**: FHWA, *Roadway Construction Noise Model, Version 1.1*, 2008 | |

| TABLE 3-9: CONSTRUCTION PHASE NOISE LEVELS | |
|---|---|
| **Construction Phase** | **Noise Level At 50 Feet (dBA)** |
| Demolition | 84.2 |
| Site Preparation | 83.2 |
| Excavation | 83.2 |
| Building Construction | 82.9 |
| Paving | 80.0 |
| Architectural Coating | 73.7 |
| **SOURCE**: FHWA, *Roadway Construction Noise Model, Version 1.1,* 2008 | |

**Table 3-10** presents the estimated noise levels at the noise sensitive receptors within 500 feet of the project site for informational purposes. Noise levels within 500 feet of the project site would generally range from 60.8 dBA (Leq) to 84.2 dBA (Leq) depending on the location of the noise sensitive receptor and the location of the construction activities on the project site. The most noise-intensive construction activities would occur during the early phases of construction (e.g., site preparation and structural framing) as construction activities would primarily occur outdoors. The majority of the latter phases of construction would occur within the newly constructed buildings and would result in lower noise levels than exterior construction.

**TABLE 3-10: UNMITIGATED CONSTRUCTION NOISE LEVELS AT SENSITIVE RECEPTORS**

| Sensitive Receptors | Distance to Construction (Feet) | Existing Ambient Noise Level (dBA, $L_{eq}$) | Max Construction Noise Level (dBA, $L_{eq}$) | Typical Construction Noise Level at Sensitive Receptor (dBA, $L_{eq}$) |
|---|---|---|---|---|
| Residences to the west | 50 | 47.9 | 84.2 | 84.2 |
| Residences to the northeast | 100 | 68.7 | 78.2 | 78.6 |
| Residences to the west | 200 | 52.1 | 67.7 | 67.8 |
| Residences to the northeast | 300 | 51.5 | 64.1 | 64.4 |
| Church of Jesus Christ of Latter-day Saints | 350 | 47.9 | 67.3 | 67.3 |
| Residences to the northeast | 400 | 54.0 | 60.1 | 61.1 |
| Residences to the northwest | 400 | 52.1 | 60.1 | 60.8 |
| Residences to the south | 440 | 52.1 | 60.8 | 61.4 |

**SOURCE**: TAHA, 2021

The proposed project would be constructed in a manner typical of urban infill projects and would not require unusually noisy activities, such as pile driving. In addition, the proposed project would not require nighttime construction activities. Construction would comply with the allowable construction hours of 7:00 a.m. to 8:00 p.m., which is designed to control noise exposure. However, the proposed project may result in noise levels that would be disruptive to nearby residences, particularly those that are located directly across the street from the project site on Van Horn and Merced Avenues.

To reduce construction noise levels at noise sensitive uses, the proposed project would be required to implement Mitigation Measures **N1** through **N4**. Mitigation Measure **N1** would require construction equipment to be equipped with mufflers to reduce engine noise, which would reduce noise levels by approximately 5 dB. Mitigation Measure **N2** would require temporary noise barriers that are at least ten feet in height to be placed along the northerly and westerly perimeter of the project site. Temporary noise barriers would provide approximately 10 dB of attenuation. Although difficult to quantify, Mitigation Measures **N3** and **N4** would also help control noise levels by locating construction staging areas away from noise sensitive receptors and establishing a noise disturbance coordinator to address noise complaints, respectively. As shown in **Table 3-11**, Mitigation Measures **N1** through **N4** would reduce construction noise levels at nearby sensitive receptors, and noise levels during proposed project construction would range from 53.5 to 69.8 dBA ($L_{eq}$). Construction contractors for the proposed project would also be required to comply with WCMC Section 15-95, which limits the time of day that construction could occur in residential areas if construction activities would cause ambient noise levels to exceed by 5 dBA. Therefore, on-site construction noise impacts would be less-than-significant with mitigation incorporated.

**TABLE 3-11: MITIGATED CONSTRUCTION NOISE LEVELS AT SENSITIVE RECEPTORS**

| Sensitive Receptors | Distance to Construction (Feet) | Existing Ambient Noise Level (dBA, Leq) | Noise Reduction with Mitigation (dBA) /a/ | Max Construction Noise Level (dBA, Leq) | Typical Construction Noise Level at Sensitive Receptor (dBA, Leq) |
|---|---|---|---|---|---|
| Residences to the west | 50 | 47.9 | 15 | 69.2 | 69.2 |
| Residences to the northeast | 100 | 68.7 | 15 | 63.2 | 69.8 |
| Residences to the west | 200 | 52.1 | 15 | 52.7 | 55.4 |
| Residences to the northeast | 300 | 51.5 | 15 | 49.1 | 53.5 |
| Church of Jesus Christ of Latter-day Saints | 350 | 47.9 | 5 | 62.3 | 62.5 |
| Residences to the northeast | 400 | 54.0 | 15 | 45.1 | 54.5 |
| Residences to the northwest | 400 | 52.1 | 15 | 45.1 | 52.9 |
| Residences to the south | 440 | 52.1 | 5 | 55.8 | 57.4 |

/a/ Includes a 10 dB reduction for temporary noise barriers and a 5 dB reduction for construction equipment mufflers.
**SOURCE**: TAHA, 2021

### *Operations Noise*

*On-Site Noise Sources.* The proposed project would include several stationary noise sources typical of residential developments. Heating, ventilation, and air conditioning (HVAC) systems in particular may generate unwanted noise in the project site vicinity. HVAC equipment without muffling or enclosures typically generates a noise level of approximately 60 dBA at 50 feet. Neither the WCMC nor the City's General Plan Noise Element have established quantitative noise thresholds regarding HVAC equipment. Per WCMC Section 26-520, multi-family residential zones are required to have all ground mechanical equipment, including HVAC systems, be completely screened behind a permanent structure and all rooftop mechanical equipment are required to be placed behind a permanent parapet wall and be completely restricted from all views . The proposed Specific Plan would also require that all roof-mounted equipment be screened from ground level view through the use of parapet walls or other architectural elements. The proposed Specific Plan would require ground-mounted equipment to be visually concealed. HVAC units would be required to be screened by walls that are at least six inches taller than the equipment. The existing WCMC and proposed Specific Plan screening requirements would further reduce HVAC noise levels by 10 dBA or more, resulting in a noise level of approximately 50 dBA at 50 feet. HVAC equipment would be fully screened and be located approximately 50 feet away from the nearest existing residences along Van Horn Avenue. The existing noise level along Van Horn Avenue is approximately 47.9 dBA $L_{eq}$, and HVAC noise levels would not be more than 5 dBA above the existing noise level. Therefore, the proposed project would not result in a significant impact related to HVAC equipment noise.

The proposed project would provide a total of 86 parking spaces, 78 of which would be provided in private two-car garages located on the ground-floor of each townhome. Eight surface guest parking spaces would be located towards the south side of project site, closer to the Walnut Creek Wash. The proposed parking garages and guest parking spaces would be accessed by internal drive aisles. Sources of parking-related noise would

be similar to those that currently exist in the surrounding area and would include engines accelerating, doors slamming, car alarms, and people talking. However, noise sensitive receptors in the surrounding area would not have a direct line-of-sight to the proposed internal drive aisles and parking spaces since the proposed townhome structures along Van Horn and Merced Avenues and the existing walls that are situated along the perimeter of existing residential properties, such as along Merced Avenue, would act as noise barriers limiting parking-related noise at the surrounding noise sensitive uses. Thus, parking-related noise is not expected cause ambient noise levels at nearby noise sensitive receptors to noticeably increase.

Two small pocket parks are proposed on the project site. One of the pocket parks would be located at the southwestern corner of the project site and the other pocket park would be located on the south side of the project site, facing Walnut Creek Wash. An outdoor amenity space is also proposed at the southern portion of the project site near Walnut Creek Wash. The proposed small pocket parks and outdoor amenity space would be sources of stationary noise related to human speech that has the potential to increase noise levels in the surrounding area. In social situations, people often talk at distances of approximately 3 to 13 feet. A typical voice level at this distance is approximately 57.8 dBA.[49] The small pocket parks are primarily passive parks that includes open green space and walking paths. These pocket parks do not include playground equipment, sports fields, or other features that would promote strenuous and noisy activities. The intent of the small pocket parks would be a place to relax and would not generate loud noise levels associated with other types of outdoor spaces, such as a rooftop bar. The proposed outdoor amenity space would include two charcoal barbeque grills and two picnic tables, which may promote outdoor gatherings. Although the proposed amenity space may generate more noise than the two small pocket parks, the distance between the proposed amenity space to the nearest residences outside of the project site is approximately 100 feet. The proposed townhomes on the project site would be oriented in a manner that would serve as a noise barrier between the proposed amenity space and nearby residential uses, such as those along Van Horn and Merced Avenues. Conversational noise associated with the outdoor areas would not likely be audible above traffic noise in the surrounding area. Therefore, the proposed project would not result in a significant impact related to conversational noise at the proposed outdoor areas.

*Off-Site Noise Sources*. Off-site noise sources that would be generated by the proposed project primarily consists of vehicular traffic along the surrounding streets. The proposed project would generate approximately 263 daily vehicle trips, of which 15 would be AM peak hour trips, and 20 would be PM peak hour trips. **Table 3-12** shows roadway noise levels for Existing (2021), Future No Project (2023) and Future with Project (2023) conditions. **Table 3-13** shows the noise level change from the increase in traffic. As shown in **Table 3-13**, the roadway noise increase attributed to the proposed project would be less-than-one dBA on the local roadway network and is not anticipated to result in a perceptible change in sound level for a person with normal hearing sensitivity. Therefore, off-site noise associated with the proposed project would not result in a significant impact.

[49]SoundPLAN, *SoundPLANessential 4.0*.

**TABLE 3-12: ESTIMATED OFF-SITE MOBILE SOURCE NOISE LEVELS**

| Roadway Segment | Estimated dBA, $L_{eq}$ at 50 Feet | | |
|---|---|---|---|
| | Existing (2021) | Future No Project (2023) | Future with Project (2023) |
| Merced Ave. from Dalewood St. to Willow Ave. | 65.6 | 65.7 | 65.7 |
| Orange Ave. from Merced Ave. to Francisquito Ave. | 66.7 | 66.8 | 66.8 |
| Merced Ave. from Willow Ave. to Orange Ave. | 65.7 | 65.8 | 65.8 |

**SOURCE:** TAHA, 2021

**TABLE 3-13: CHANGE IN OFF-SITE MOBILE SOURCE NOISE LEVELS**

| Roadway Segment | Estimated dBA, $L_{eq}$ at 50 Feet | |
|---|---|---|
| | Future with Project vs. Future No Project (2023) | Existing (2021) vs. Future with Project (2023) |
| Merced Ave. from Dalewood St. to Willow Ave. | 0.0 | 0.1 |
| Orange Ave. from Merced Ave. to Francisquito Ave. | 0.0 | 0.1 |
| Merced Ave. from Willow Ave. to Orange Ave. | 0.0 | 0.1 |

**SOURCE:** TAHA, 2021

***Summary***

Overall, construction of the proposed project may result in noise levels that would be disruptive to nearby residences, particularly those that are located directly across the street from the project site on Van Horn and Merced Avenues. Mitigation Measures **N1** through **N4** would be implemented to reduce construction noise levels at noise sensitive receptors. A less-than-significant impact with mitigation incorporated would occur during construction of the proposed project.

Operational noise, such as noise from HVAC equipment, vehicles at parking garages and guest parking areas, outdoor open space areas, and vehicles traveling along public streets, are not expected to cause ambient noise levels at noise sensitive receptor to noticeably increase. A less-than-significant impact would occur during operations of the proposed project.

**d)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would generate excessive groundborne vibration or groundborne noise levels. Operations of the proposed project would not include significant sources of vibration. Vehicle trips associated with the proposed project would not generate perceptible levels of groundborne vibration or groundborne noise as rubber-tired vehicles rarely create ground-borne vibration problems unless there is a discontinuity or bump in the road that causes the vibration.[50]

Construction activity can generate varying degrees of vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of a

[50]FTA, *Transit Noise and Vibration Impact Assessment*, September 2018.

construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, and to damage at the highest levels.

Because construction activity is short-term and equipment moves around a project site, the primary concern regarding construction vibration relates to building damage. Activities that can result in damage include demolition and site preparation in close proximity to sensitive structures. Typical vibration levels associated with relevant construction equipment are provided in **Table 3-14**. Importantly, construction would not require pile driving, which generates elevated vibration levels above what typical construction equipment does.

**TABLE 3-14: VIBRATION VELOCITIES FOR CONSTRUCTION EQUIPMENT**

| Equipment | Peak Particle Velocity at 25 feet (Inches/Second) |
|---|---|
| Large Bulldozer | 0.089 |
| Loaded Trucks | 0.076 |
| Small Bulldozer | 0.003 |

**SOURCE**: FTA, *Transit Noise and Vibration Impact Assessment*, September 2018

The City has not established vibration standards for construction activities. The Federal Transit Administration (FTA) has published guidance stating that non-engineered timber and masonry buildings (e.g., typical single-family residential buildings) can withstand peak particle velocity (PPV) vibration of levels of at least 0.2 inches per second without experiencing damage. Heavy-duty equipment would generally operate at least 50 feet away from the property line of nearby residences, which would result in a vibration level of 0.031 inches per second PPV. The 0.2 inches per second vibration damage threshold would not be exceeded and damage to nearby structures would not occur. Vibration is a localized event and attenuates rapidly with distance. At 50 feet, vibration damage would not occur.

The City regulates construction disturbances through limiting the allowable hours of activities to between 7:00 a.m. to 8:00 p.m. Residential construction is typically over by 4:00 p.m. even though later construction is allowed. Complying with the City standards is considered sufficient for limiting exposure of surrounding uses to vibration levels. Therefore, a less-than-significant impact related to construction vibration would occur.

**c)** **No Impact**. The proposed project is not located within an airport land use plan and is not within two miles of a private airstrip or public airport. The nearest airport is San Gabriel Valley Airport approximately 5 miles to the west. There is no potential to expose people working or residing in the area to excessive aircraft noise. Therefore, no impact related to excessive airport noise would occur.

## MITGATION MEASURES

**N-1** Power construction equipment (including combustion engines), fixed or mobile, shall be equipped with muffling devices consistent with manufacturers' standards. All equipment shall be properly maintained to assure that no additional noise, due to worn or improperly maintained parts, would be generated.

**N-2** Temporary noise barriers with a minimum height of 10 feet shall be erected along the northern perimeter of the project site (along Van Horn Avenue) and along the westerly perimeter of the project site (along Merced Avenue from Van Horn Avenue to 100 feet south of Van Horn Avenue). The noise barriers shall be constructed of material with a minimum weight of two pounds per square foot with no gaps or perforations. Noise barriers may be constructed of, but not limited to, 5/8-inch plywood, 5/8-inch oriented strand board, and hay bales.

**N-3** Noise generating construction activities whose specific location on the project site may be flexible (e.g., operation of compressors and generators) shall be conducted as far away as possible from the nearest sensitive land uses, and natural and/or manmade barriers (e.g., intervening construction trailers) shall be used to screen propagation of noise from such activities towards these land uses. The construction contractor shall locate construction staging areas away from noise-sensitive uses.

**N-4** A “noise disturbance coordinator” shall be established. The disturbance coordinator shall be responsible for responding to local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures such that the complaint is resolved. All notices that are sent to residential units within 500 feet of the construction site and all signs posted at the construction site shall list the telephone number for the disturbance coordinator.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.14 POPULATION AND HOUSING.** Would the project: | | | | |
| a) Induce substantial unplanned population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | ☐ | ☐ | ☑ | ☐ |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☑ |

**a)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would induce substantial population growth that would not have otherwise occurred as rapidly or in as great a magnitude. According to the US Census Bureau, the City has an estimated population of 109,501 in 2020 and has an average household size of 3.47 persons per household.[51] Based on the average household size for the City, the proposed project is estimated to increase population by approximately 135 persons. SCAG forecasts population in the City to have a population of 116,700 by year 2040, which is an increase of 7,199 persons over the next 20 years.[52] The estimated population increase of 135 persons by the proposed project would represent approximately 2 percent of the projected population increase for the City and would be within the SCAG 2040 population forecast for the City. Additionally, the proposed project is located in a developed portion of the City and is served by existing roads and utility infrastructure. The proposed project does not propose extension of roads or other infrastructure that would encourage development beyond what is already planned elsewhere in the City. Therefore, the proposed project would not directly or indirectly induce substantial unplanned population growth, and impacts would be less-than-significant.

**b)** **No Impact**. A significant impact would occur if the proposed project would displace substantial numbers of existing people or housing. The project site is vacant, and the proposed project would construct 39 townhomes on the project site. No housing would be displaced as a result of the proposed project, and the proposed project would not require the construction of replacement housing elsewhere. Therefore, no impact would occur.

[51]US Census, *Quick Facts: West Covina City, California*, https://www.census.gov/quickfacts/fact/table/westcovinacitycalifornia/INC110219, accessed September 2021.

[52]SCAG, *2016-2040 RTP/SCS Final Growth Forecast by Jurisdiction*, https://scag.ca.gov/sites/main/files/file-attachments/2016_2040rtpscs_finalgrowthforecastbyjurisdiction.pdf?1605576071, accessed September 2021.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.15 PUBLIC SERVICES.** Would the project: | | | | |
| a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | | | | |
| i) Fire protection? | ☐ | ☐ | ☑ | ☐ |
| ii) Police protection? | ☐ | ☐ | ☑ | ☐ |
| iii) Schools? | ☐ | ☐ | ☑ | ☐ |
| iv) Parks? | ☐ | ☐ | ☑ | ☐ |
| v) Other public facilities? | ☐ | ☐ | ☑ | ☐ |

**a.i)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would result in the provision of or need for new or physically altered fire protection services, the construction and/or operation of which would cause significant environmental impacts in order to maintain service ratios, response times, or other performance objectives. The West Covina Fire Department (WCFD) provides fire protection and paramedic services to residents and businesses within the City. The City is divided into five fire districts, and each fire district is served by a fire station. The project site is within the fire district of Fire Station No. 1, located at 819 South Sunset Avenue.[53] The project site is within 1 "road mile" of this fire station, which would ensure a maximum response time of five minutes or less.

Construction of the proposed project may generate traffic associated with the movement of construction equipment, removal of demolition and excavation materials, and construction worker trips. Construction activities associated with the proposed project are not expected to directly block emergency routes since construction would not involve any street closures. Although temporary partial lane closures may be required during construction, such as to connect to the existing water and sewer lines under Merced Avenue and Van Horn Avenue, respectively, and slow-moving construction-related vehicles may be present along streets, emergency access would remain available along all surrounding streets. Emergency vehicles would be able to circumvent slow-moving construction-related vehicles using sirens during emergencies.

The proposed project would introduce 39 townhomes, which would incrementally increase demand for fire protection services. However, the proposed project would be constructed to comply with the requirements of the City's Fire Code (Article II of the WCMC), which requires adequate fire flow for the project site, fire prevention and suppression measures, fire access, and a sufficient number of hydrants. The proposed project would be designed to accommodate emergency access to and within the project site. The proposed private drive aisles would be designed to meet the minimum width and turning dimensions as required by WCFD. Additionally, all buildings would be constructed to meet the current building code requirements for fire safety. The applicant would be required to submit project plans to

[53]City of West Covina, *Fire Department*, https://www.westcovina.org/departments/fire, accessed August 2021.

WCFD and incorporate WCFD fire protection and suppression features that are appropriate for the proposed project. Compliance with the City's Fire Code and the inclusion of the WCFD fire suppression and suppression measures would ensure that operation of the proposed project would not cause WCFD to expand the existing Fire Station 1, or any other fire stations within the City.

Per Chapter 17, Article IV of the WCMC, new residential structures constructed as a result of the proposed project would be required to pay development impact fees, which would be used to pay for the construction of any additional fire facilities, fire facility improvements, equipment, and vehicles required as a result of the proposed project.

As the proposed project would be required to comply with the City's Fire Code, WCFD requirements, and pay development impact fees, the proposed project would not increase demand on fire protection services in a manner that would adversely affect WCFD service ratios, response times, or other performance objectives. Therefore, impacts related to fire protection services would be less than significant.

**a.ii)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would result in the provision of or need for new or physically altered police protection services, the construction and/or operation of which would cause significant environmental impacts in order to maintain service ratios, response times, or other performance objectives. The West Covina Police Department (WCPD) provides police protection services to residents and businesses within the City of West Covina. WCPD headquarters is located at 1444 West Garvey Avenue approximately 1.3 "road miles" northeast of the project site.

Project construction may generate traffic associated with the movement of construction equipment, removal of demolition and excavation materials, and construction worker trips. However, construction activities are temporary and would not involve the closure of an entire street. Emergency access would remain available along all surrounding streets and would not directly block emergency routes. Although temporary partial lane closures may be required during construction, such as to connect to the existing water and sewer lines under Merced Avenue and Van Horn Avenue, respectively, and slow-moving construction-related vehicles may be present along streets, emergency access would remain available along all surrounding streets. Emergency vehicles would be able to circumvent slow-moving construction-related vehicles using sirens during emergencies.

Project plans would be submitted to the WCPD Crime Prevention unit for review and appropriate on-site security features would be required by WCPD. Furthermore, as discussed in Response to Checklist Question 3.15a.i, the proposed project would be required to pay development impact fees, which would be used to pay for any additional law enforcement facilities, police facility improvements, vehicles, equipment, and services required as a result of the proposed project. Therefore, less-than-significant impacts related to police protection services would occur.

**a.iii)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would induce substantial employment or population growth, which could increase demand for school facilities that would exceed the capacity of the schools, necessitating a new school or physical alteration of an existing school, the construction of which would cause a significant environmental impact. The project site is located within the West Covina Unified School District (WCUSD). Orangewood Elementary School and Edgewood Middle and High Schools are the closest schools that serve the project site. In the 2019-2020 school year, Orangewood Elementary School, which serves grades TK through 5, had a total enrollment

of 623 students.[54] Edgewood Middle School, which serves grades 6 through 8, had a total enrollment of 585 students during the 2019-2020 school year.[55] Edgewood High School, which serves grades 9 through 12, had a total enrollment of 860 students during the same school year.[56]

The need for new school facilities is typically associated with a population increase that generates an increase in enrollment large enough to cause new schools to be constructed. The proposed project would result in a net increase of 39 residential units, which would potentially generate approximately 20 new students.[57] While the proposed project would generate a direct demand for school facilities, the applicant would be required to pay developer school impact fees to WCUSD. Pursuant to Section 65995(3)(h) of the California Government Code, the payment of statutory fees "is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization." Therefore, a less-than-significant impact related to schools would occur.

**a.iv)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would induce substantial population growth resulting in the need for and/or the provision of new or physically altered parks, the construction of which would cause significant environmental impacts. The City's Public Services Department is responsible for the provision, maintenance, and operation of public recreational and park facilities and services within the City. As discussed in Response to Checklist Question 3.14a, the proposed project would result in a net population increase of approximately 135 persons. The population increase would generate direct demand on parks and recreational facilities. The proposed project would include two on-site passive parks and amenities for outdoor dining and passive recreation, such as barbeque grills and picnic tables. Additionally, the proposed project would be required to pay development impact fees, which would contribute funding for parks and recreational facilities. Any additional park services required as a result of the proposed project would be mitigated by the applicant paying the development impact fees. Therefore, impacts would be less than significant.

**a.v)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would result in substantial employment or population growth that could generate a demand for other public facilities, including roads, transit, utilities, and libraries, that would exceed the capacity available to serve the project site, necessitating new or physically altered public facilities, the construction of which would cause significant environmental impacts. Potential impacts to roads and transit are discussed in Section 3.17 Transportation, and potential impacts to utilities are discussed in Section 3.19 Utilities and Service Systems. With regards to libraries, the City is served by the West Covina Library located at 1601 West Covina Parkway approximately 0.7 miles northeast of the project site.

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[54]West Covina School District, *Orangewood Elementary School: School Accountability Report Card: Reported Using Data from the 2019-2020 School Year*, https://drive.google.com/file/d/114otOYMYlU0ffq7wzMcK4o4Cfexl8QaK/view, accessed August 2021.

[55]West Covina School District, *Edgewood Middle School: School Accountability Report Card: Reported Using Data from the 2019-2020 School Year*, https://drive.google.com/file/d/10pJHNLmqo9-LZkucRclNfRl8r_Tj-KK3/view, accessed August 2021.

[56]West Covina School District, *Edgewood High School: School Accountability Report Card: Reported Using Data from the 2019-2020 School Year*, https://drive.google.com/file/d/10HBYZ45m-myQosGYAqewnL7HEFsYTX2I/view, accessed August 2021.

[57]Assuming a student generation rate of 0.5 students per single-family residential unit, as provided in the *City of West Covina 2016 General Plan Update and Downtown Plan and Code Final Environmental Impact Report*, December 2016.

The proposed project would result in a population increase of approximately 135 persons, which would result in a direct demand on library facilities. The West Covina Library is part of the County of Los Angeles Public Library system, which is financed by property taxes from the service area, general county funds, parcel tax, grants, feeds, and funds raised by the Library Foundation. As a result, the proposed project would contribute to the financing of library services through property taxes, which would mitigate the need for new or physically altered government facilities that support library use. Therefore, less-than-significant impacts related to library facilities would occur.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.16 RECREATION.** Would the project: | | | | |
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | ☐ | ☐ | ☑ | ☐ |
| 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? | ☐ | ☐ | ☑ | ☐ |

**a)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would result in an increased use of existing parkland and recreational facilities in a manner that would accelerate or induce their physical deterioration. As discussed in Response to Checklist Question 3.15a.iv, the population increase of 135 persons as a result of the proposed project would generate direct demand on parks and recreational facilities. Orangewood Park is the nearest City park to the project site and is likely to be used by residents of the proposed project. The park is approximately 0.2 miles southeast of the project site. Residents of the proposed project would also use nearby City parks and other public and regional parks. According to the Los Angeles Countywide Comprehensive Parks and Recreation Needs Assessment, the City has approximately 249.6 acres of parks and recreational facilities.[58] As discussed in Response to Checklist Question 3.14a, the City has an estimated population of 109,501 in 2020, which results in an estimated parkland-to-population ratio of 2.3 acres per 1,000 residents.[59] The proposed project is estimated to increase population by approximately 135 persons. The parkland-to-resident ratio would remain at approximately 2.3 acres per 1,000 residents with implementation of the proposed project, and the proposed project increase in population would not substantially decrease the existing parkland-to-resident ratio. Due to the small number of residents that would be introduced by the proposed project, the increased use of existing public park facilities by residents of the proposed project would not be at a level that would result in physical deterioration of existing parks and other recreational facilities, and would not require the need for new or physically altered facilities. Additionally, the proposed project would include two on-site pocket parks and amenities for outdoor dining and passive recreation, such as barbeque grills and picnic tables. These on-site open space areas are expected to meet some of the demand for recreational facilities generated by residents of the proposed project.

The proposed project would be required to pay development impact fees, which would contribute funding for parks and recreational facilities. Any additional park services required as a result of the proposed project would be mitigated by the applicant paying the development impact fee. Thus, the proposed project would not substantially increase the use of existing neighborhood and regional parks or other recreational facilities that would cause or accelerate adverse deterioration of existing parks and recreational facilities. Therefore, a less-than-significant impact is anticipated.

[58]City of West Covina, *Park Amenities Chart*, https://www.westcovina.org/home/showpublisheddocument/20319/637637497895170000, accessed August 2021.

[59]US Census Bureau, *City and Town Population Totals: 2010-2020*, https://www.census.gov/programs-surveys/popest/technical-documentation/research/evaluation-estimates/2020-evaluation-estimates/2010s-cities-and-towns-total.html, accessed August 2021.

**b)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would include or require the construction or expansion of recreational facilities, the construction and operation of which would have an adverse physical effect on the environment. The proposed project would develop two on-site pocket parks and amenities for outdoor dining and passive recreation, such as barbeque grills and picnic tables. The potential environmental effects associated with the construction and operation of proposed on-site recreational spaces have been evaluated throughout this IS/MND as part of the proposed project. As discussed throughout this IS/MND, the proposed project, including the proposed on-site recreational areas, would not have significant environmental effects. Additionally, the proposed project would be required to pay development impact fees, which would contribute funding for public parks and recreational facilities. Any additional park services required as a result of the proposed project would be mitigated by the applicant paying the development impact fees. Therefore, a less-than-significant impact would occur.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.17 TRANSPORTATION.** Would the project: | | | | |
| a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? | ☐ | ☐ | ☑ | ☐ |
| b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)? | ☐ | ☐ | ☑ | ☐ |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ☐ | ☐ | ☐ | ☑ |
| d) Result in inadequate emergency access? | ☐ | ☐ | ☐ | ☑ |

**a)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.

The proposed project would not conflict with policies supporting alternative transportation modes. The project area is served by Foothill Transit Line 272. The nearest bus stop is located on Merced Avenue, east of Orange Avenue, approximately 320 feet southeast of the project site. The proposed project does not include components that would disrupt services to Foothill Transit Line 272. This bus line would continue to serve the project site and the surrounding area. No designated bikeways are located along Van Horne Avenue, Merced Avenue, and other nearby streets. The proposed project would not affect any bikeways. The existing sidewalks along Van Horn Avenue and Merced Avenue would remain with implementation of the proposed project and would continue to be used by pedestrians to access the project site and the surrounding area.

The project site has one existing driveway approach on Van Horne Avenue and three driveway approaches on Merced Avenue. With implementation of the proposed project, the driveway approaches on Van Horne Avenue would be removed to provide a continuous sidewalk along the street, making the street more pedestrian friendly. Vehicular access to the project site would be provided via the existing driveway on Merced Avenue. The existing driveway on Merced Avenue would be reconstructed to conform with all applicable City requirements.

Level of service (LOS) is typically used to describe the operating conditions of a roadway based on factors such as speed, travel time, and delay. According to the Focused Traffic Analysis for the proposed project, which is included in Appendix C, the proposed project would generate a net total of 263 daily vehicle trips, of which 15 trips would be during the AM peak hour and 20 trips would be during the PM peak hour.[60] The City requires an LOS analysis for projects that generate an excess of 50 trips during either the AM or PM peak hours at any signalized intersection. As the proposed project peak hour trips would be below the minimum City threshold, an LOS analysis is not required, and it can be concluded that the increase in traffic associated with the proposed project would not cause LOS at roadways to deteriorate beyond the City's LOS threshold limit, and proposed

[60]KOA Corporation, *Technical Memorandum: Focused Traffic Analysis – Proposed Project at 1912 West Merced Avenue, West Covina*, December 15, 2021.

project-related traffic is not expected to cause traffic delays along the surrounding roadways.

Vehicle miles traveled (VMT) measures the amount and distance of vehicle travel attributed to a project or use. Low VMT areas are areas in the City where VMT falls below the City's adopted threshold of significance. Low VMT areas likely already has a good mix of uses and adding additional uses in this area would provide for less and/or shorter trips and bundling of trips. According to the Focused Traffic Analysis for the proposed project, the project site is located in a low VMT area, and the San Gabriel Valley Council of Governments VMT Evaluation Tool was used to determine whether the proposed project would be below the low-VMT area screening threshold. Based on the results of the VMT Evaluation Tool, which is provided in Attachment A of the Focused Traffic Analysis, the proposed project would be below the low VMT area screening threshold and, thus, a full VMT analysis would not be required for the proposed project.[61] As the proposed project would be below the low VMT area screening threshold, the proposed project would not result in significant transportation impacts. The proposed project would not conflict with any program plan, ordinance or policy addressing the circulation system. Therefore, impacts would be less than significant.

**b)** **Less-Than-Significant Impact.** A significant impact would occur if the project was inconsistent with CEQA Guidelines Section 15064.3(b). CEQA Guidelines Section 15064.3 identifies VMT as a criteria for evaluating a project's transportation impact. As discussed in Response to Checklist Question 3.17a, the proposed project is in a low VMT area and would be below the low VMT area screening threshold. As a result, a full VMT analysis would not be required for the proposed project and the proposed project would not result in significant transportation impacts. Therefore, the proposed project would not conflict with CEQA Guidelines Section 15064.3(b), and impacts would be less than significant.

**c)** **No Impact**. A significant impact would occur if the proposed project would introduce design features or incompatible uses that would increase hazards. The proposed project would not require the construction of any new roads, or the modification of any existing roads or pedestrian pathways that would result in an increase in hazards due to a design feature. The proposed project would remove the driveway approaches on Van Horne Avenue to provide a continuous sidewalk along the street. The removal of these driveway approaches would decrease hazards to pedestrians and make the sidewalk on Van Horn Avenue adjacent to the project site more pedestrian friendly. Access and circulation associated with the proposed project would be designed and constructed in conformance with all applicable City requirements. To comply with City requirements, the westbound lanes on Merced Avenue from Orange Avenue to Van Horn Avenue would be restriped to allow for a new two-way left-turn lane, which would allow left turning vehicles to safely enter and exit the project site. The proposed project would not introduce incompatible uses that would increase hazards. Additionally, the proposed project would be designed to comply with the WCFD requirements regarding emergency access. The proposed project design would also be reviewed by the City's Planning Division, Building Division, and WCFD during the plan review process to ensure all applicable requirements are met. Therefore, no impact would occur.

**d)** **No Impact**. A significant impact would occur if the proposed project would result in inadequate emergency access. The proposed project would be designed to allow adequate emergency access to the project site in accordance with the City's driveway standards and WCFD requirements. Additionally, the proposed private drive aisles would

[61]OA Corporation, *Technical Memorandum: Focused Traffic Analysis – Proposed Project at 1912 West Merced Avenue, West Covina*, December 15, 2021.

be designed to meet the minimum width and turning dimensions as required by WCFD. Construction of the proposed project may involve temporary lane closures on Van Horn and Merced Avenue, such as to connect to the existing sewer line on Van Horn Avenue and water line on Merced Avenue. However, emergency vehicles would still be able to travel along these roadways and access to all surrounding properties would be maintained. Therefore, the proposed project would not result in inadequate emergency access, and no impact is expected.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.18 TRIBAL CULTURAL RESOURCES.** Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: | | | | |
| a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)? | ☐ | ☑ | ☐ | ☐ |
| b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | ☐ | ☑ | ☐ | ☐ |

**a-b) Less-Than-Significant Impact with Mitigation Incorporated**. A significant impact would occur if the proposed project would cause a substantial adverse change in the significance of a tribal cultural resource. The project site is currently vacant but has been previously disturbed and developed with a school. To date, no significant tribal cultural resources have been identified on the project site. As discussed in Response to Checklist Question 3.5a, the project site is not listed or eligible for listing in the California Register of Historical Resources. Additionally, the project site is not identified as a historical or potentially historical resource in the City's 2006 Historic Context Report and the 2019 Historic Resource Inventory Update.

The project site has been previously developed with school-related uses, and no known tribal cultural resources have been previously discovered on the project site. However, it is possible that tribal cultural resources could be discovered during ground disturbing activities. In accordance with Assembly Bill 52 (AB 52) requirements, California Native American tribes traditionally and culturally affiliated with the geographic area of the project site were notified of the proposed project on January 12, 2022. The Gabrieleno Band of Mission Indians - Kizh Nation responded and recommended that mitigation measures be imposed on the project site to ensure that any inadvertent discovery of tribal cultural resources encountered during ground-disturbing activities are properly documented, salvaged, and protected. Therefore, with implementation of Mitigation Measures **TR-1** through **TR-3**, impacts related to the tribal cultural resources would be less than significant.

## MITIGATION MEASURES

**TR-1** The project applicant shall be required to retain and compensate for the services of a tribal monitor/consultant who is both approved by the Gabrieleño Band of Mission Indians-Kizh Nation Tribal Government and is listed under the Native American Heritage Commission's Tribal Contact list for the area of the project location. The tribal monitor/consultant shall only be present on the project site during the construction phases that involve ground disturbing activities. Ground disturbing activities are defined by the Gabrieleño Band of Mission Indians-Kizh Nation as activities that may include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, tree removals, boring, grading, excavation, drilling, and trenching, within the project area. The tribal

monitor/consultant shall complete daily monitoring logs that will provide descriptions of the day's activities, including construction activities, locations, soil, and any cultural materials identified. The on-site monitoring shall end when the project site ground disturbing activities are completed, or when the tribal representatives and monitor/consultant have indicated that the project site has a low potential for impacting tribal cultural resources.

**TR-2** Upon discovery of any archaeological resources, construction activities shall cease in the immediate vicinity of the find until the find can be assessed. All archaeological resources unearthed by project construction activities shall be evaluated by the qualified archaeologist and Tribal monitor/consultant approved by the Gabrieleño Band of Mission Indians-Kizh Nation. If the resources are Native American in origin, the Gabrieleño Band of Mission Indians-Kizh Nation shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the Tribe will request reburial or preservation for educational purposes. Work may continue on other parts of the project site while evaluation and, if necessary, mitigation takes place.

If a resource is determined by the qualified archaeologist to constitute a "historical resource" or "unique archaeological resource," time allotment and funding sufficient to allow for implementation of avoidance measures, or appropriate mitigation, must be available. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code (PRC) Section 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with subsequent laboratory processing and analysis. Any historic archaeological material that is not Native American in origin shall be curated at a public, non-profit institution with a research interest in the materials, such as the Natural History Museum of Los Angeles County or the Fowler Museum, if such an institution agrees to accept the material. If no institution accepts the archaeological material, they shall be offered to a local school or historical society in the area for educational purposes.

**TR-3** Native American human remains are defined in PRC Section 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in PRC Section 5097.98, are also to be treated according to this statute. Health and Safety Code Section 7050.5 dictates that any discoveries of human skeletal material shall be immediately reported to the County Coroner and excavation halted until the coroner has determined the nature of the remains. If the coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission and Public Resources Code (PRC) Section 5097.98 shall be followed.

Upon discovery, the tribal and/or archaeological monitor/consultant/consultant shall immediately divert work at minimum of 150 feet and place an exclusion zone around the burial. The monitor/consultant(s) will then notify the tribe, the qualified lead archaeologist, and the construction manager who will call the coroner. Work will continue to be diverted while the coroner determines whether the remains are Native American. The discovery is to be kept confidential and secure to prevent any further disturbance. If the finds are determined to be Native American, the coroner will notify the Native American Heritage Commission as mandated by state law who will then appoint a Most Likely Descendent.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.19 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? | ☐ | ☐ | ☑ | ☐ |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | ☐ | ☐ | ☑ | ☐ |
| c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | ☐ | ☐ | ☑ | ☐ |
| 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? | ☐ | ☐ | ☑ | ☐ |
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | ☐ | ☐ | ☑ | ☐ |

**a)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would require or result in the relocation or construction of new utilities facilities or service systems, which would cause significant environmental effects.

***Water Supply***. Water for the project site is served by Suburban Water Systems. Suburban Water Systems serves a population of about 300,000 through a water distribution system that includes 18 wells, 32 reservoirs, and more than 800 miles of pipeline. Their network of facilities pumps and distributes approximately 43,000 acre-feet of water annually.[62,63] Groundwater comes from Suburban-owned wells in the Main San Gabriel Basin and Central Basin. The well water is disinfected and treated prior to entering the distribution system. Water supply is supplemented with water purchased mainly from member agencies of the Metropolitan Water District of Southern California, Covina Irrigated Company, and California Domestic Water Company. Suburban Water Systems is divided into two main service areas: San Jose Hills Service Area and the Whittier/La Mirada Service Area. The project site is located in the San Jose Hills Service Area.

According to the 2020 Urban Water Management Plan for Suburban Water Systems, Suburban Water Systems had an annual water demand of 45,389 acre-feet for a service area population of 298,367 in 2020, while the San Jose Hills Service Area had an annual water demand of 23,371 acre-feet for a service area population of 175,529.

[62]Suburban Water Systems, *Final 2020 Urban Water Management Plan*, June 2021, https://wuedata.water.ca.gov/public/uwmp_attachments/3673902213/Suburban%20Final%202020%20UWMP_2021-06-30.pdf.

[63]One acre-foot is about 326,000 gallons, which meets the annual average indoor/outdoor water needs of one or two households.

**Tables 3-15**, **3-16**, and **3-17** show the 2020 Urban Water Management Plan projected water supply and demand in the San Jose Hills Service Area under normal year, single dry year, and multiple dry year conditions, respectively, through 2045. As shown, Suburban Water Systems is projected to meet future water demands in the San Jose Hills Service Area for normal, single-dry, and multiple-dry year conditions through 2045.[64]

**TABLE 3-15: SAN JOSE HILLS NORMAL YEAR SUPPLY AND DEMAND COMPARISON**

| | Year | | | | |
|---|---|---|---|---|---|
| **Water Supply/Demand** | **2025** | **2030** | **2035** | **2040** | **2045** |
| Supply Totals (afy) | 34,200 | 34,200 | 34,200 | 34,200 | 34,200 |
| Demand Totals (afy) | 24,175 | 24,415 | 24,658 | 24,904 | 25,151 |
| Difference (afy) | 10,025 | 9,785 | 9,542 | 9,296 | 9,049 |

Afy = acre-feet per year
SOURCE: Suburban Water Systems, Final 2020 Urban Water Management Plan, Table 3.23, June 2021

**TABLE 3-16: SAN JOSE HILLS SINGLE DRY YEAR SUPPLY AND DEMAND COMPARISON**

| | Year | | | | |
|---|---|---|---|---|---|
| **Water Supply/Demand** | **2025** | **2030** | **2035** | **2040** | **2045** |
| Supply Totals (afy) | 29,579 | 29,579 | 29,579 | 29,579 | 29,579 |
| Demand Totals (afy) | 25,535 | 25,782 | 26,032 | 26,283 | 26,538 |
| Difference (afy) | 4,044 | 3,797 | 3,547 | 3,295 | 3,041 |

Afy = acre-feet per year
SOURCE: Suburban Water Systems, Final 2020 Urban Water Management Plan, Table 3.26, June 2021

**TABLE 3-17: SAN JOSE HILLS MULTIPLE DRY YEAR SUPPLY AND DEMAND COMPARISON**

| | Year | | | | |
|---|---|---|---|---|---|
| **Water Supply/Demand** | **2025** | **2030** | **2035** | **2040** | **2045** |
| **FIRST YEAR** | | | | | |
| Supply Totals (afy) | 33,945 | 33,945 | 33,945 | 33,945 | 33,945 |
| Demand Totals (afy) | 24,374 | 24,610 | 24,848 | 25,088 | 25,331 |
| Difference | 9,571 | 9,336 | 9,098 | 8,857 | 8,614 |
| **SECOND YEAR** | | | | | |
| Supply Totals (afy) | 32,893 | 32,893 | 32,893 | 32,893 | 32,893 |
| Demand Totals (afy) | 24,374 | 24,610 | 24,848 | 25,088 | 25,331 |
| Difference | 8,519 | 8,284 | 8,046 | 7,805 | 7,562 |
| **THIRD YEAR** | | | | | |
| Supply Totals (afy) | 32,481 | 32,481 | 32,481 | 32,481 | 32,481 |
| Demand Totals (afy) | 24,374 | 24,610 | 24,848 | 25,088 | 25,331 |
| Difference | 8,107 | 7,872 | 7,634 | 7,393 | 7,150 |
| **FOURTH Year** | | | | | |
| Supply Totals (afy) | 29,579 | 29,579 | 29,579 | 29,579 | 29,579 |
| Demand Totals (afy) | 24,374 | 24,610 | 24,848 | 25,088 | 25,331 |
| Difference | 5,205 | 4,969 | 4,731 | 4,491 | 4,248 |

[64]Suburban Water Systems, *Final 2020 Urban Water Management Plan*, June 2021, https://wuedata.water.ca.gov/public/uwmp_attachments/3673902213/Suburban%20Final%202020%20UWMP_2021-06-30.pdf.

**TABLE 3-17: SAN JOSE HILLS MULTIPLE DRY YEAR SUPPLY AND DEMAND COMPARISON**

| | Year | | | | |
|---|---|---|---|---|---|
| **Water Supply/Demand** | **2025** | **2030** | **2035** | **2040** | **2045** |
| **FIFTH YEAR** | | | | | |
| Supply Totals (afy) | 36,662 | 36,662 | 36,662 | 36,662 | 36,662 |
| Demand Totals (afy) | 24,374 | 24,610 | 24,848 | 25,088 | 25,331 |
| Difference | 12,289 | 12,053 | 11,815 | 11,574 | 11,331 |

Afy = acre-feet per year
SOURCE: Suburban Water Systems, Final 2020 Urban Water Management Plan, Table 3.29, June 2021

The proposed project would increase water demand by approximately 12,168 gallons per day, or 11.4 afy, which represents 0.1 percent of the Suburban Water Systems' available water supply for the San Jose Hills Service Area for a normal year, 0.3 to 0.4 percent of the available water supply for a single dry year, and 0.1 to 0.3 percent of the available water supply for multiple dry year.[65] Sufficient water supplies would be available to serve the proposed project.

The estimated water demand of the proposed project would be typical for residential uses and is not expected to exceed available supplies or the available capacity within the distribution infrastructure that would serve the project site. The proposed project would install a minimum 4-inch water line under the proposed private drive aisles to provide water for domestic and fire service to each residential unit on the project site. This water line would connect to the existing City 16-inch water line under Merced Avenue. The proposed project would be required to comply with Sections 4.303 and 4.304 of the CalGreen Code, as adopted by the City, which require indoor and outdoor water conservation measures to be implemented for residential development, such as low flush toilets, aerators on sinks and showerheads, water efficient appliances, and water-efficient automatic irrigation system controllers. Additionally, prior to the issuance of the building permit, the applicant would be required to verify that the City's water system can accommodate the proposed project's fire flows and all potable water demand. The estimated water demand of the proposed project is not expected to exceed available supplies or the available capacity within the distribution infrastructure that would serve the project site. Adequate water supplies would be available to the proposed project, and new or expanded water facilities would not be required. Therefore, impacts related to water supply infrastructure would be less than significant.

***Wastewater***. Wastewater generated from the project site would be collected by sewer pipelines that are maintained by the City. Wastewater collected by the City is then directed to the Sanitation Districts of Los Angeles County (LACSD) trunk sewer pipelines where wastewater is conveyed to the LACSD San Jose Creek Water Reclamation Plant (SJCWRP). SJCWRP treats approximately 58.5 million gallons per day (mgd) of wastewater and has the capacity to treat up to 100 mgd of wastewater, which leaves an available capacity of 41.5 mgd.[66] The proposed project is estimated to generate approximately 10,140 gallons per day of wastewater, which is less than 0.1 percent of the

[65]Based on the Los Angeles County Sanitation District wastewater generation rate of 260 gallons per day per for single-family residential home. Estimated water demand is assumed to be 120 percent of wastewater flows.

[66]Los Angeles County Sanitation Districts, *Who We Are and What We Do for You*, Table 2: Level of Treatment, Capacity, Flow, https://www.lacsd.org/services/wastewater/revenueprogram/whoweare.asp#districtMap, accessed August 2021.

available capacity at SJCWRP.[67] SJCWRP would have adequate available capacity to serve the proposed project, and the proposed project would not cause SJCWRP to exceed wastewater treatment requirements of the LARWQCB. Thus, new or expanded wastewater treatment facilities would not be required, and impacts would be less than significant.

***Stormwater Drainage***. Existing stormwater runoff from the project site generally flows southwest towards Van Horn Avenue and is collected by an existing catch basin located at the end of the Van Horn Avenue cul-de-sac, adjacent to the project site. The stormwater is then conveyed to Walnut Creek Wash. The proposed project would increase the amount of impervious surfaces on the project site compared to existing conditions. Per WCMC Section 9-36, the proposed project would be required to implement low impact development (LID) measures to reduce the amount of impervious area of a completed project site and promote the use of infiltration and other controls that reduce runoff. To comply with the City's LID requirements, the proposed project would install an underground infiltration system that would clean stormwater first flush and allow stormwater to percolate into the subsurface soils. On-site catch basins would be installed throughout the project site that would connect to storm drains under the on-site drive aisles. The storm drains would convey on-site stormwater runoff towards the underground infiltration system. Any stormwater that is not captured by the underground infiltration system would be conveyed to the existing catch basin on Van Horn Avenue, which would direct stormwater towards Walnut Creek Wash. With installation and operation of the proposed underground detention system, runoff leaving the project site and discharged into the existing storm drain system would not substantially increase compared to existing conditions. Construction of the proposed on-site storm drainage infrastructure are within the limits identified for the proposed project and, thus, the potential impacts associated with the proposed storm drain lines have been considered in the respective sections of this IS/MND.

The proposed project would also be subject to the latest requirements of the NPDES permit program, LARWQB, and applicable pollution control and stormwater drainage measures. As the proposed project would not cause a substantial increase in the peak flow rates or volumes that would exceed the drainage capacity of existing stormwater drainage facilities, new or expanded stormwater drainage facilities beyond those that would be installed by the proposed project would not be required, and impacts would be less than significant.

***Electric Power and Natural Gas***. Energy use associated with operation of the proposed project would be typical of residential uses, requiring electricity and natural gas for interior and exterior building lighting, HVAC, electronic equipment, machinery, refrigeration, appliances, security systems, and more. The proposed project would be served by Southern California Edison for electricity, and SoCalGas for natural gas. The project site is in a developed, urbanized portion of the City of West Covina that is served by existing electrical power and natural gas services. With implementation of the proposed project, new electricity and natural gas connections would be established for the new townhome units on the project site. However, no substantial electrical or natural gas infrastructure is present on or adjacent to the project site that would need to be relocated to accommodate the proposed project. Therefore, impacts associated with electric power and natural gas facilities would be less than significant.

[67]Assumes a generation rate of 260 gallons per day per residential unit. Los Angeles County Sanitation Districts, *Table 1, Loadings for Each Class of Land Use*, https://www.lacsd.org/home/showpublisheddocument/3644/637644575489800000, accessed September 2021.

***Telecommunications***. Telecommunication services include phone, television, and internet providers. The project site is in a developed, urbanized portion of the City of West Covina that is served by existing telecommunications services. The proposed project would potentially require additions of new on-site telecommunications infrastructure to serve the new residences and potential upgrades and/or relocation of existing telecommunications infrastructure. Installation of new telecommunications infrastructure would be limited to on-site telecommunications distribution and minor off-site work associated with connections to the existing system. No upgrades to off-site telecommunications systems are anticipated to occur as a result of the proposed project. Any work that may affect services to the existing telecommunications lines would be coordinated with service providers and are not expected to cause significant environmental effects. Therefore, impacts would be less than significant.

**b)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would increase water usage such that the project site would not have enough water supplies during normal, dry and multiple dry years. As discussed in Response to Checklist Question 3.19a, the proposed project would result in an increased water demand by approximately 11.4 afy, which represents 0.1 percent of the Suburban Water Systems' available water supply for the San Jose Hills Service Area. Sufficient water supplies would be available to serve the proposed project during normal, single dry, and multiple dry years. Therefore, impacts would be less than significant.

**c)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project's water demand exceeded the capacity of the project site's wastewater treatment provider. As discussed in Response to Checklist Question 3.19a, wastewater on the project site is treated at the SJCWRP, and the SJCWRP has sufficient remaining available treatment capacity to adequately serve the proposed project. The proposed project is estimated to generate approximately 10,140 gallons per day of wastewater, which is less than 0.1 percent of the available capacity at SJCWRP. It is anticipated that the amount of wastewater that would be generated by the proposed project would be met, and no new entitlements or resources would be required to meet the proposed project's expected wastewater needs. Therefore, less-than-significant impacts would occur.

**d-e)** **Less-Than-Significant Impact**. A significant impact would occur if the proposed project would generate solid waste in excess of state or local standards, in excess of the capacity of local infrastructure, impair the attainment of solid waste reduction goals, or would not comply with federal, state, and local management and reduction statutes and regulations related to solid waste. The City of West Covina is served by Athens Services, which is a private waste hauler contracted by the City to provide solid waste collection and recycling services to residents and businesses. Solid waste collected by Athens Services is not directly disposed of at landfills serving the City but is transported to the Athens Services-owned Materials Recovery Facility (MRF) in the City of Industry. Solid waste received at the MRF is sorted, and all recyclable materials found are removed and recycled. The City of Industry MRF can process 5,000 tons of mixed materials each day.[68] The remaining solid waste that cannot be recycled is sent to the Victorville Sanitary Landfill. The Victorville Sanitary Landfill has a max permitted throughput of 3,000 tons per day, a max permitted capacity of 93,400,000 cubic yards, and a remaining capacity of 79,400,000 cubic yards.[69]

[68]City of West Covina, *2016 General Plan Update and Downtown Plan and Code Final Environmental Impact Report,* December 2016.

[69]CalRecycle, *Victorville Sanitary Landfill (36-AA-0045)*, https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1870?siteID=2652, accessed August 2021.

The applicant of the proposed project would be required to comply with CalGreen Code Section 4.408, which requires that at least 65 percent of demolition and construction debris be diverted from landfills by recycling and/or salvage for reuse. The applicant of the proposed project would also be required to comply with the WCMC Chapter 7, Article XVI (Reduction, Reuse and Recycling of Construction and Demolition Debris), which requires applicants of projects that involves 1,000 square feet or more of construction and demolition material to divert construction and demolition debris to reduce landfill waste.

Assuming a solid waste generation factor of 0.41 tons per dwelling unit per year for single-family residential housing,[70] the proposed project would generate approximately 16 tons of solid waste per year, or approximately 87.7 pounds of solid waste per day, which represent less than 0.1 percent of the permitted daily intake capacity at the Victorville Sanitary Landfill. The proposed project can be adequately served by the City's solid waste provider.

PRC Section 41780.01(a) states that it is California's policy goal to reduce, recycle, or compost at least 75 percent of solid waste generated by 2020, and annually thereafter. The proposed project would be required to comply with these and other applicable regulations related to solid waste, including CalGreen Code Section 4.408 and WCMC Chapter 7, Article XVI. As the proposed project can be adequately served by the City's solid waste provider and would comply with applicable regulations related to solid waste, less-than-significant impacts would occur.

[70]California Air Pollution Officers Association, *California Emissions Estimator Model (CalEEMod, Version 2016.3.2) Users Guide Appendix D Default Data Tables*, October 2017.

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.20 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? | ☐ | ☐ | ☐ | ☑ |
| 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? | ☐ | ☐ | ☐ | ☑ |
| 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? | ☐ | ☐ | ☐ | ☑ |
| 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? | ☐ | ☐ | ☐ | ☑ |

**a)** **No Impact**. A significant impact would occur if the proposed project would be located in or near a state responsibility area or land classified as a very high fire hazard severity zone (VHFHSZ) and would substantially impair an adopted emergency response plan or emergency evacuation plan. A fire hazard severity zone is a mapped area developed by CalFire that designates zones with varying degrees of fire hazard (i.e., moderate, high, and very high). Areas that are designated as Very High or High Fire Hazard Severity Zones are the most likely to experience wildfire. The project site is not located in or near a state responsibility area or in a VHFHSZ, as identified by CalFire. The nearest fire hazard zone (including VHFHSZ) is located approximately 2.7 miles southeast of the project site.[71] Additionally, the proposed project would not involve activities that would expose people or structures to the risk of loss, injury, or death involving wildland fires. Therefore, the project site would not be subject to severe wildfires or wildfires of greater concern.

As discussed in Response to Checklist Question 3.9f, the project site is not located along an emergency route. Additionally, the proposed project does not involve any uses or features that would interfere with the NHMP or designated emergency/disaster routes near the project site. The proposed project would be designed to accommodate emergency access to the project site. The proposed driveway and drive aisles would be designed to meet the minimum width and turning dimension requirements of WCFD. Furthermore, all buildings would be constructed to meet the current City's Fire Code and building code requirements for fire safety. The applicant would be required to submit project plans to WCFD and incorporate WCFD fire protection and suppression features that are appropriate for the proposed project.

Emergency access to the project site and the surrounding uses would be maintained during construction of the proposed project and would not interfere with the NHMP or any evacuation routes. As the project site is not located in a VHFHSZ and would not impair an adopted emergency response plan or emergency evacuation plan, no impact would occur.

[71]California Department of Forestry and Fire Protection, *California Fire Hazard Severity Zone Viewer*, https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414, accessed July 2021.

**b)** **No Impact**. A significant impact would occur if the proposed project would be located in or near a state responsibility area or land classified as VHFHSZ and would exacerbate wildfire risks that would expose project occupants to pollutant concentrations for a wildfire or the uncontrolled spread of a wildfire. As discussed in Response to Checklist Question 3.20a, the proposed project is not located in or near a state responsibility area or in a VHFHSZ. The project site and surrounding area is relatively flat and located in an urbanized area. The southern California region, including the City of West Covina, is susceptible to strong wind gusts that typically have little to no accommodating precipitation, which are known as windstorms. The City is typically affected by the Santa Ana winds, which are generally warm, offshore dry winds that originate from the east or northeast.[72] Because southern California is generally a windstorm susceptible region, much of this region encounters winds capable of spreading wildfire and wildfire pollutants. However, areas that are especially susceptible to exacerbate such fire risks are those that receive high gusts of wind and are within a fire hazard severity zone and has been a historically burn area. The project site is not within a fire hazard severity zone or a historic burn area.[73] As a result, it is unlikely that the proposed project would expose project occupants to uncontrolled spread of a wildfire or pollutant concentrations from wildfire. Therefore, no impact would occur.

**c)** **No Impact**. A significant impact would occur if the proposed project would be located in or near a state responsibility area or land classified as VHFHSZ and would require the installation or maintenance of infrastructure that may exacerbate the risk of fire or ongoing impacts to the environment. As discussed in Response to Checklist Question 3.20a, the project site is not located in or near a state responsibility area or in a VHFHSZ. The project site would be adequately served by existing facilities and utilities and would not require additional installation or maintenance of roads, fuel breaks, emergency water sources, or power lines. Thus, the proposed project would not require installation or maintenance of associated structures that may exacerbate fire risk or that may require in temporary or ongoing impacts to the environment. Furthermore, the proposed project would adhere to relevant building design codes, including the City's Fire Code. Therefore, no impact would occur.

**d)** **No Impact**. A significant impact would occur if the proposed project would be located in or near a state responsibility area or land classified as VHFHSZ and would expose people or structures to significant risks after a wildfire, such as downslope or downstream flooding or landslides. As discussed in Response to Checklist Question 3.20a, the proposed project is not located in or near a state responsibility area or in a VHFHSZ. The project site and its surrounding area is relatively flat. No slopes or hills are located in the vicinity of the project site and, thus, people or structures would not be exposed to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, no impact would occur.

[72]City of West Covina, *Natural Hazard Mitigation Plan: Section 10: Windstorm*, https://www.westcovina.org/departments/fire/disaster-preparedness/natural-hazard-mitigation-plan/section-10-windstorm, accessed July 2021.

[73]*Ibid.*

| | Potentially Significant Impact | Less-Than-Significant Impact with Mitigation Incorporated | Less-Than-Significant Impact | No Impact |
|---|---|---|---|---|
| **3.21 MANDATORY FINDINGS OF SIGNIFICANCE.** Would the project: | | | | |
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of 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? | ☐ | ☑ | ☐ | ☐ |
| b) Does the project have impacts which are individually limited, but cumulatively considerable? (Cumulatively considerable means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects). | ☐ | ☑ | ☐ | ☐ |
| c) Does the project have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly? | ☐ | ☑ | ☐ | ☐ |

**a)** **Less-Than-Significant Impact with Mitigation Incorporated**. A significant impact would occur if the proposed project would have the potential to degrade the quality of the environment; substantially reduce, threaten, or eliminate fish, plant, or wildlife habitats or population, including rare or endangered species; or eliminate historical, archaeological, or paleontological resources. The preceding analyses conclude that no significant unmitigated impacts to the environment would occur. The proposed project is located within a highly urbanized area, and while currently vacant, the project site was previously developed. As discussed in Section 3.4, Biological Resources, of this IS/MND, the project site does not contain suitable habitat for special-status wildlife species (including rare, threatened, and endangered species) and no special-status species were identified or have a high likelihood of occurring on the project site. Additionally, the project site and the adjacent Walnut Creek Wash do not contain any riparian habitat or features necessary to support riparian habitat. The proposed project would not 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, or reduce the number or restrict the range of a rare or endangered plant or animal. Although the proposed project would remove trees on the project site, which may provide nesting habitat for birds, Mitigation Measure **BR-1** would be implemented to ensure that nesting birds would not be adversely affected by the proposed tree removal.

As discussed in Response to Checklist Question 3.5a, no historic resources are located on the project site. Similarly, no archaeological, paleontological, and tribal cultural resources are known to exist on the project site (Response to Checklist Questions 3.5b and 3.18a-b). However, it is possible that unanticipated archaeological, paleontological, or tribal cultural resources may be encountered during ground disturbance activities, and Mitigation Measures **CR-1**, **CR-2**, **GS-1**, **GS-2**, and **TR-1** through **TR-3** would reduce the potential for the destruction of any significant archaeological, paleontological, and tribal cultural resources.

With implementation of Mitigation Measures **BR-1**, **CR-1**, **CR-2**, **GS-1**, **GS-2**, and **TR-1** through **TR-3**, the proposed project would not eliminate important examples of major periods of California history or prehistory. Therefore, impacts would be less than significant with implementation of mitigation measures.

**b)** **Less-Than-Significant Impact with Mitigation Incorporated**. A significant impact would occur if the proposed project, in conjunction with related projects, would result in impacts that are less than significant when viewed separately but significant when viewed together. As discussed in this Initial Study, potential impacts on air quality; migratory wildlife; archaeological, paleontological, and tribal resources; and noise would be reduced to less than significant levels with implementation of mitigation measures. The proposed project would have either no impact or less-than-significant impacts for all other environmental topic areas considered in this IS/MND. As a result, the proposed project would not significantly contribute to cumulative impacts even though other projects may be constructed in the surrounding area. Therefore, a less-than-significant impact is anticipated with incorporation of mitigation measures.

**c)** **Less-Than-Significant Impact with Mitigation Incorporated**. A significant impact may occur if the proposed project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. As discussed throughout this IS/MND, the proposed project would have less-than-significant impacts (with and without incorporation of mitigation measures) or no impacts on the environment. The proposed project would have a less-than-significant impact with implementation of mitigation measures for the following environmental topic areas: air quality; migratory wildlife; archaeological, paleontological, and tribal resources; and noise. The proposed project would have less-than-significant impacts or no impacts for all other environmental topic areas. All potential impacts of the proposed project have been identified, and mitigation measures have been prescribed, where applicable, to reduce all potential impacts to less-than-significant levels. Upon implementation of mitigation measures included in this IS/MND and compliance with existing regulations, the proposed project would not have the potential to result in substantial adverse impacts on human beings either directly or indirectly. Therefore, a less-than-significant impact is anticipated with incorporation of the mitigation measures identified in this IS/MND.

# 4.0 LIST OF PREPARERS AND SOURCES CONSULTED

This section also documents all the sources that contributed in the preparation of this IS/MND.

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# Appendix A

## Air Quality and Greenhouse Gas Emissions Calculations

The Grove at Merced Project - Los Angeles-South Coast County, Winter

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

# The Grove at Merced Project

**Los Angeles-South Coast County, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Enclosed Parking Structure | 78.00 | Space | 0.00 | 31,200.00 | 0 |
| Other Asphalt Surfaces | 24.73 | 1000sqft | 0.57 | 24,725.00 | 0 |
| Other Non-Asphalt Surfaces | 14.67 | 1000sqft | 0.34 | 14,666.00 | 0 |
| Parking Lot | 8.00 | Space | 0.04 | 1,561.00 | 0 |
| Condo/Townhouse | 39.00 | Dwelling Unit | 1.30 | 76,605.00 | 112 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 33 |
| **Climate Zone** | 9 | | | **Operational Year** | 2024 |
| **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 - Site Plan:
12 x 1,325 SF
15 x 1,375 SF
12 x 1,475 SF

Construction Phase - Approximate Schedule

Off-road Equipment - Infill Residential Equipment Inventory

Off-road Equipment - Infill Residential Equipment Inventory

Off-road Equipment - Infill Residential Equipment Inventory

The Grove at Merced Project - Los Angeles-South Coast County, Winter

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

Off-road Equipment - Infill Residential Equipment Inventory

Off-road Equipment - Infill Residential Equipment Inventory

Trips and VMT - Project Trips

Grading -

Architectural Coating -

Vehicle Trips - Focused Traffic Analysis: 263 daily trips

Woodstoves - Project Design: No Hearths

Area Coating -

Sequestration -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Fleet Mix -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 3.00 | 36.00 |
| tblConstructionPhase | NumDays | 6.00 | 18.00 |
| tblConstructionPhase | NumDays | 10.00 | 30.00 |
| tblConstructionPhase | NumDays | 220.00 | 420.00 |
| tblConstructionPhase | NumDays | 10.00 | 30.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblFireplaces | FireplaceDayYear | 25.00 | 0.00 |
| tblFireplaces | FireplaceHourDay | 3.00 | 0.00 |
| tblFireplaces | FireplaceWoodMass | 1,019.20 | 0.00 |
| tblFireplaces | NumberGas | 33.15 | 0.00 |

The Grove at Merced Project - Los Angeles-South Coast County, Winter

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

| | | | |
|---|---|---|---|
| tblFireplaces | NumberNoFireplace | 3.90 | 0.00 |
| tblFireplaces | NumberWood | 1.95 | 0.00 |
| tblGrading | MaterialExported | 0.00 | 200.00 |
| tblLandUse | LandUseSquareFeet | 24,730.00 | 24,725.00 |
| tblLandUse | LandUseSquareFeet | 14,670.00 | 14,666.00 |
| tblLandUse | LandUseSquareFeet | 3,200.00 | 1,561.00 |
| tblLandUse | LandUseSquareFeet | 39,000.00 | 76,605.00 |
| tblLandUse | LotAcreage | 0.70 | 0.00 |
| tblLandUse | LotAcreage | 0.07 | 0.04 |
| tblLandUse | LotAcreage | 2.44 | 1.30 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblTripsAndVMT | HaulingTripNumber | 25.00 | 180.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 8.00 |
| tblTripsAndVMT | VendorTripNumber | 16.00 | 14.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 4.00 |
| tblTripsAndVMT | WorkerTripNumber | 8.00 | 30.00 |
| tblTripsAndVMT | WorkerTripNumber | 10.00 | 30.00 |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 30.00 |
| tblTripsAndVMT | WorkerTripNumber | 58.00 | 120.00 |

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

| | | | |
|---|---|---|---|
| tblTripsAndVMT | WorkerTripNumber | 12.00 | 20.00 |
| tblVehicleTrips | ST_TR | 8.14 | 6.74 |
| tblVehicleTrips | SU_TR | 6.28 | 6.74 |
| tblVehicleTrips | WD_TR | 7.32 | 6.74 |
| tblWoodstoves | NumberCatalytic | 1.95 | 0.00 |
| tblWoodstoves | NumberNoncatalytic | 1.95 | 0.00 |
| tblWoodstoves | WoodstoveDayYear | 25.00 | 0.00 |
| tblWoodstoves | WoodstoveWoodMass | 999.60 | 0.00 |

## 2.0 Emissions Summary

The Grove at Merced Project - Los Angeles-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 | 1.3078 | 13.3015 | 17.5377 | 0.0346 | 1.4310 | 0.4641 | 1.8368 | 0.3815 | 0.4275 | 0.7669 | 0.0000 | 3,420.4648 | 3,420.4648 | 0.6111 | 0.1161 | 3,455.2126 |
| 2023 | 18.3622 | 12.8757 | 23.1296 | 0.0452 | 1.6802 | 0.5052 | 2.1853 | 0.4482 | 0.4865 | 0.9347 | 0.0000 | 4,454.9999 | 4,454.9999 | 0.6151 | 0.0865 | 4,496.1482 |
| 2024 | 18.2706 | 12.2609 | 22.8095 | 0.0447 | 1.6802 | 0.4465 | 2.1266 | 0.4482 | 0.4295 | 0.8777 | 0.0000 | 4,422.1953 | 4,422.1953 | 0.6076 | 0.0833 | 4,462.2167 |
| **Maximum** | **18.3622** | **13.3015** | **23.1296** | **0.0452** | **1.6802** | **0.5052** | **2.1853** | **0.4482** | **0.4865** | **0.9347** | **0.0000** | **4,454.9999** | **4,454.9999** | **0.6151** | **0.1161** | **4,496.1482** |

### 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 | 1.3078 | 13.3015 | 17.5377 | 0.0346 | 1.4310 | 0.4641 | 1.8368 | 0.3815 | 0.4275 | 0.7669 | 0.0000 | 3,420.4648 | 3,420.4648 | 0.6111 | 0.1161 | 3,455.2126 |
| 2023 | 18.3622 | 12.8757 | 23.1296 | 0.0452 | 1.6802 | 0.5052 | 2.1853 | 0.4482 | 0.4865 | 0.9347 | 0.0000 | 4,454.9999 | 4,454.9999 | 0.6151 | 0.0865 | 4,496.1482 |
| 2024 | 18.2706 | 12.2609 | 22.8095 | 0.0447 | 1.6802 | 0.4465 | 2.1266 | 0.4482 | 0.4295 | 0.8777 | 0.0000 | 4,422.1953 | 4,422.1953 | 0.6076 | 0.0833 | 4,462.2167 |
| **Maximum** | **18.3622** | **13.3015** | **23.1296** | **0.0452** | **1.6802** | **0.5052** | **2.1853** | **0.4482** | **0.4865** | **0.9347** | **0.0000** | **4,454.9999** | **4,454.9999** | **0.6151** | **0.1161** | **4,496.1482** |

The Grove at Merced Project - Los Angeles-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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**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 | 1.7770 | 0.0372 | 3.2290 | 1.7000e-004 | | 0.0179 | 0.0179 | | 0.0179 | 0.0179 | 0.0000 | 5.8210 | 5.8210 | 5.6300e-003 | 0.0000 | 5.9618 |
| Energy | 0.0186 | 0.1592 | 0.0677 | 1.0200e-003 | | 0.0129 | 0.0129 | | 0.0129 | 0.0129 | | 203.1653 | 203.1653 | 3.8900e-003 | 3.7200e-003 | 204.3726 |
| Mobile | 0.7802 | 0.8707 | 7.9490 | 0.0173 | 1.8922 | 0.0129 | 1.9051 | 0.5040 | 0.0120 | 0.5160 | | 1,797.5477 | 1,797.5477 | 0.1230 | 0.0770 | 1,823.5618 |
| **Total** | **2.5758** | **1.0671** | **11.2457** | **0.0185** | **1.8922** | **0.0436** | **1.9358** | **0.5040** | **0.0427** | **0.5467** | **0.0000** | **2,006.5339** | **2,006.5339** | **0.1325** | **0.0807** | **2,033.8961** |

### 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 | 1.7770 | 0.0372 | 3.2290 | 1.7000e-004 | | 0.0179 | 0.0179 | | 0.0179 | 0.0179 | 0.0000 | 5.8210 | 5.8210 | 5.6300e-003 | 0.0000 | 5.9618 |
| Energy | 0.0186 | 0.1592 | 0.0677 | 1.0200e-003 | | 0.0129 | 0.0129 | | 0.0129 | 0.0129 | | 203.1653 | 203.1653 | 3.8900e-003 | 3.7200e-003 | 204.3726 |
| Mobile | 0.7420 | 0.8084 | 7.3665 | 0.0158 | 1.7239 | 0.0118 | 1.7357 | 0.4592 | 0.0110 | 0.4702 | | 1,641.0354 | 1,641.0354 | 0.1149 | 0.0715 | 1,665.2122 |
| **Total** | **2.5376** | **1.0048** | **10.6632** | **0.0170** | **1.7239** | **0.0426** | **1.7664** | **0.4592** | **0.0417** | **0.5009** | **0.0000** | **1,850.0217** | **1,850.0217** | **0.1244** | **0.0752** | **1,875.5466** |

The Grove at Merced Project - Los Angeles-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** | **1.48** | **5.84** | **5.18** | **8.15** | **8.90** | **2.41** | **8.75** | **8.90** | **2.30** | **8.38** | **0.00** | **7.80** | **7.80** | **6.15** | **6.80** | **7.79** |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/13/2022 | 7/23/2022 | 6 | 36 | |
| 2 | Grading | Grading | 7/25/2022 | 8/13/2022 | 6 | 18 | |
| 3 | Paving | Paving | 8/15/2022 | 9/17/2022 | 6 | 30 | |
| 4 | Building Construction | Building Construction | 9/19/2022 | 1/20/2024 | 6 | 420 | |
| 5 | Architectural Coating | Architectural Coating | 12/18/2023 | 1/20/2024 | 6 | 30 | |

**Acres of Grading (Site Preparation Phase): 13.5**

**Acres of Grading (Grading Phase): 13.5**

**Acres of Paving: 0.95**

**Residential Indoor: 155,125; Residential Outdoor: 51,708; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 4,329 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Crawler Tractors | 1 | 6.00 | 212 | 0.43 |
| Site Preparation | Excavators | 1 | 7.00 | 158 | 0.38 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Grading | Crawler Tractors | 1 | 6.00 | 212 | 0.43 |
| Grading | Excavators | 1 | 7.00 | 158 | 0.38 |
| Grading | Graders | 1 | 6.00 | 187 | 0.41 |

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

| | | | | | |
|---|---|---|---|---|---|
| Grading | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Paving | Cement and Mortar Mixers | 2 | 6.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 6.00 | 130 | 0.42 |
| Paving | Paving Equipment | 1 | 6.00 | 132 | 0.36 |
| Paving | Rollers | 1 | 6.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 1 | 6.00 | 97 | 0.37 |
| Building Construction | Aerial Lifts | 2 | 7.00 | 63 | 0.31 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Rough Terrain Forklifts | 2 | 7.00 | 100 | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 2 | 6.00 | 97 | 0.37 |
| Architectural Coating | Aerial Lifts | 2 | 6.00 | 63 | 0.31 |
| Architectural Coating | Air Compressors | 2 | 6.00 | 78 | 0.48 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 3 | 30.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 4 | 30.00 | 0.00 | 180.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 30.00 | 8.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 7 | 120.00 | 14.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 4 | 20.00 | 4.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

The Grove at Merced Project - Los Angeles-South Coast County, Winter

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

## 3.2 Site Preparation - 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 | | | | | 0.3977 | 0.0000 | 0.3977 | 0.0429 | 0.0000 | 0.0429 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.6902 | 7.5269 | 6.5426 | 0.0131 | | 0.3241 | 0.3241 | | 0.2981 | 0.2981 | | 1,270.3717 | 1,270.3717 | 0.4109 | | 1,280.6433 |
| **Total** | **0.6902** | **7.5269** | **6.5426** | **0.0131** | **0.3977** | **0.3241** | **0.7218** | **0.0429** | **0.2981** | **0.3411** | | **1,270.3717** | **1,270.3717** | **0.4109** | | **1,280.6433** |

### 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 | 0.1112 | 0.0838 | 1.0856 | 2.9100e-003 | 0.3353 | 2.1500e-003 | 0.3375 | 0.0889 | 1.9800e-003 | 0.0909 | | 295.5400 | 295.5400 | 8.5500e-003 | 8.0200e-003 | 298.1440 |
| **Total** | **0.1112** | **0.0838** | **1.0856** | **2.9100e-003** | **0.3353** | **2.1500e-003** | **0.3375** | **0.0889** | **1.9800e-003** | **0.0909** | | **295.5400** | **295.5400** | **8.5500e-003** | **8.0200e-003** | **298.1440** |

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

## 3.2 Site Preparation - 2022

### Mitigated Construction 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 | | | | | 0.1551 | 0.0000 | 0.1551 | 0.0168 | 0.0000 | 0.0168 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.6902 | 7.5269 | 6.5426 | 0.0131 | | 0.3241 | 0.3241 | | 0.2981 | 0.2981 | 0.0000 | 1,270.3717 | 1,270.3717 | 0.4109 | | 1,280.6433 |
| **Total** | **0.6902** | **7.5269** | **6.5426** | **0.0131** | **0.1551** | **0.3241** | **0.4792** | **0.0168** | **0.2981** | **0.3149** | **0.0000** | **1,270.3717** | **1,270.3717** | **0.4109** | | **1,280.6433** |

### 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 | 0.1112 | 0.0838 | 1.0856 | 2.9100e-003 | 0.3353 | 2.1500e-003 | 0.3375 | 0.0889 | 1.9800e-003 | 0.0909 | | 295.5400 | 295.5400 | 8.5500e-003 | 8.0200e-003 | 298.1440 |
| **Total** | **0.1112** | **0.0838** | **1.0856** | **2.9100e-003** | **0.3353** | **2.1500e-003** | **0.3375** | **0.0889** | **1.9800e-003** | **0.0909** | | **295.5400** | **295.5400** | **8.5500e-003** | **8.0200e-003** | **298.1440** |

The Grove at Merced Project - Los Angeles-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 | | | | | 0.7966 | 0.0000 | 0.7966 | 0.0861 | 0.0000 | 0.0861 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.0014 | 11.4701 | 7.8339 | 0.0181 | | 0.4495 | 0.4495 | | 0.4135 | 0.4135 | | 1,751.3309 | 1,751.3309 | 0.5664 | | 1,765.4913 |
| **Total** | **1.0014** | **11.4701** | **7.8339** | **0.0181** | **0.7966** | **0.4495** | **1.2461** | **0.0861** | **0.4135** | **0.4996** | | **1,751.3309** | **1,751.3309** | **0.5664** | | **1,765.4913** |

### 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 | 0.0455 | 1.7476 | 0.3985 | 6.2200e-003 | 0.1750 | 0.0125 | 0.1875 | 0.0480 | 0.0120 | 0.0600 | | 680.9752 | 680.9752 | 0.0361 | 0.1081 | 714.0763 |
| 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 | 0.1112 | 0.0838 | 1.0856 | 2.9100e-003 | 0.3353 | 2.1500e-003 | 0.3375 | 0.0889 | 1.9800e-003 | 0.0909 | | 295.5400 | 295.5400 | 8.5500e-003 | 8.0200e-003 | 298.1440 |
| **Total** | **0.1566** | **1.8314** | **1.4841** | **9.1300e-003** | **0.5104** | **0.0147** | **0.5250** | **0.1369** | **0.0139** | **0.1509** | | **976.5151** | **976.5151** | **0.0447** | **0.1161** | **1,012.2203** |

**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 | | | | | 0.3107 | 0.0000 | 0.3107 | 0.0336 | 0.0000 | 0.0336 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.0014 | 11.4701 | 7.8339 | 0.0181 | | 0.4495 | 0.4495 | | 0.4135 | 0.4135 | 0.0000 | 1,751.3309 | 1,751.3309 | 0.5664 | | 1,765.4913 |
| **Total** | **1.0014** | **11.4701** | **7.8339** | **0.0181** | **0.3107** | **0.4495** | **0.7602** | **0.0336** | **0.4135** | **0.4471** | **0.0000** | **1,751.3309** | **1,751.3309** | **0.5664** | | **1,765.4913** |

### 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 | 0.0455 | 1.7476 | 0.3985 | 6.2200e-003 | 0.1750 | 0.0125 | 0.1875 | 0.0480 | 0.0120 | 0.0600 | | 680.9752 | 680.9752 | 0.0361 | 0.1081 | 714.0763 |
| 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 | 0.1112 | 0.0838 | 1.0856 | 2.9100e-003 | 0.3353 | 2.1500e-003 | 0.3375 | 0.0889 | 1.9800e-003 | 0.0909 | | 295.5400 | 295.5400 | 8.5500e-003 | 8.0200e-003 | 298.1440 |
| **Total** | **0.1566** | **1.8314** | **1.4841** | **9.1300e-003** | **0.5104** | **0.0147** | **0.5250** | **0.1369** | **0.0139** | **0.1509** | | **976.5151** | **976.5151** | **0.0447** | **0.1161** | **1,012.2203** |

The Grove at Merced Project - Los Angeles-South Coast County, Winter

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

## 3.4 Paving - 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 | 0.6252 | 5.9808 | 7.6088 | 0.0120 | | 0.3020 | 0.3020 | | 0.2796 | 0.2796 | | 1,129.5763 | 1,129.5763 | 0.3487 | | 1,138.2935 |
| Paving | 0.0533 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **0.6785** | **5.9808** | **7.6088** | **0.0120** | | **0.3020** | **0.3020** | | **0.2796** | **0.2796** | | **1,129.5763** | **1,129.5763** | **0.3487** | | **1,138.2935** |

### 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 | 0.0156 | 0.4080 | 0.1390 | 1.5700e-003 | 0.0512 | 3.7500e-003 | 0.0550 | 0.0148 | 3.5800e-003 | 0.0183 | | 168.4325 | 168.4325 | 5.6100e-003 | 0.0243 | 175.8122 |
| Worker | 0.1112 | 0.0838 | 1.0856 | 2.9100e-003 | 0.3353 | 2.1500e-003 | 0.3375 | 0.0889 | 1.9800e-003 | 0.0909 | | 295.5400 | 295.5400 | 8.5500e-003 | 8.0200e-003 | 298.1440 |
| **Total** | **0.1267** | **0.4918** | **1.2246** | **4.4800e-003** | **0.3866** | **5.9000e-003** | **0.3925** | **0.1037** | **5.5600e-003** | **0.1093** | | **463.9725** | **463.9725** | **0.0142** | **0.0323** | **473.9563** |

The Grove at Merced Project - Los Angeles-South Coast County, Winter

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

## 3.4 Paving - 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 | 0.6252 | 5.9808 | 7.6088 | 0.0120 | | 0.3020 | 0.3020 | | 0.2796 | 0.2796 | 0.0000 | 1,129.5763 | 1,129.5763 | 0.3487 | | 1,138.2935 |
| Paving | 0.0533 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **0.6785** | **5.9808** | **7.6088** | **0.0120** | | **0.3020** | **0.3020** | | **0.2796** | **0.2796** | **0.0000** | **1,129.5763** | **1,129.5763** | **0.3487** | | **1,138.2935** |

### 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 | 0.0156 | 0.4080 | 0.1390 | 1.5700e-003 | 0.0512 | 3.7500e-003 | 0.0550 | 0.0148 | 3.5800e-003 | 0.0183 | | 168.4325 | 168.4325 | 5.6100e-003 | 0.0243 | 175.8122 |
| Worker | 0.1112 | 0.0838 | 1.0856 | 2.9100e-003 | 0.3353 | 2.1500e-003 | 0.3375 | 0.0889 | 1.9800e-003 | 0.0909 | | 295.5400 | 295.5400 | 8.5500e-003 | 8.0200e-003 | 298.1440 |
| **Total** | **0.1267** | **0.4918** | **1.2246** | **4.4800e-003** | **0.3866** | **5.9000e-003** | **0.3925** | **0.1037** | **5.5600e-003** | **0.1093** | | **463.9725** | **463.9725** | **0.0142** | **0.0323** | **473.9563** |

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

## 3.5 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 | 0.8359 | 9.0127 | 12.9520 | 0.0202 | | 0.3906 | 0.3906 | | 0.3711 | 0.3711 | | 1,943.5481 | 1,943.5481 | 0.4567 | | 1,954.9651 |
| **Total** | **0.8359** | **9.0127** | **12.9520** | **0.0202** | | **0.3906** | **0.3906** | | **0.3711** | **0.3711** | | **1,943.5481** | **1,943.5481** | **0.4567** | | **1,954.9651** |

### 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 | 0.0272 | 0.7141 | 0.2433 | 2.7400e-003 | 0.0897 | 6.5600e-003 | 0.0962 | 0.0258 | 6.2700e-003 | 0.0321 | | 294.7569 | 294.7569 | 9.8200e-003 | 0.0425 | 307.6714 |
| Worker | 0.4446 | 0.3350 | 4.3425 | 0.0116 | 1.3413 | 8.6000e-003 | 1.3499 | 0.3557 | 7.9100e-003 | 0.3636 | | 1,182.1598 | 1,182.1598 | 0.0342 | 0.0321 | 1,192.5761 |
| **Total** | **0.4718** | **1.0491** | **4.5857** | **0.0144** | **1.4310** | **0.0152** | **1.4461** | **0.3815** | **0.0142** | **0.3957** | | **1,476.9167** | **1,476.9167** | **0.0440** | **0.0746** | **1,500.2475** |

The Grove at Merced Project - Los Angeles-South Coast County, Winter

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

## 3.5 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 | 0.8359 | 9.0127 | 12.9520 | 0.0202 | | 0.3906 | 0.3906 | | 0.3711 | 0.3711 | 0.0000 | 1,943.5481 | 1,943.5481 | 0.4567 | | 1,954.9651 |
| **Total** | **0.8359** | **9.0127** | **12.9520** | **0.0202** | | **0.3906** | **0.3906** | | **0.3711** | **0.3711** | **0.0000** | **1,943.5481** | **1,943.5481** | **0.4567** | | **1,954.9651** |

### 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 | 0.0272 | 0.7141 | 0.2433 | 2.7400e-003 | 0.0897 | 6.5600e-003 | 0.0962 | 0.0258 | 6.2700e-003 | 0.0321 | | 294.7569 | 294.7569 | 9.8200e-003 | 0.0425 | 307.6714 |
| Worker | 0.4446 | 0.3350 | 4.3425 | 0.0116 | 1.3413 | 8.6000e-003 | 1.3499 | 0.3557 | 7.9100e-003 | 0.3636 | | 1,182.1598 | 1,182.1598 | 0.0342 | 0.0321 | 1,192.5761 |
| **Total** | **0.4718** | **1.0491** | **4.5857** | **0.0144** | **1.4310** | **0.0152** | **1.4461** | **0.3815** | **0.0142** | **0.3957** | | **1,476.9167** | **1,476.9167** | **0.0440** | **0.0746** | **1,500.2475** |

The Grove at Merced Project - Los Angeles-South Coast County, Winter

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

## 3.5 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 | 0.7786 | 8.4012 | 12.9301 | 0.0202 | | 0.3368 | 0.3368 | | 0.3201 | 0.3201 | | 1,944.1401 | 1,944.1401 | 0.4547 | | 1,955.5071 |
| **Total** | **0.7786** | **8.4012** | **12.9301** | **0.0202** | | **0.3368** | **0.3368** | | **0.3201** | **0.3201** | | **1,944.1401** | **1,944.1401** | **0.4547** | | **1,955.5071** |

### 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 | 0.0156 | 0.5626 | 0.2147 | 2.6100e-003 | 0.0897 | 2.7200e-003 | 0.0924 | 0.0258 | 2.6000e-003 | 0.0284 | | 280.8684 | 280.8684 | 9.3500e-003 | 0.0404 | 293.1475 |
| Worker | 0.4129 | 0.2959 | 3.9970 | 0.0113 | 1.3413 | 8.0900e-003 | 1.3494 | 0.3557 | 7.4500e-003 | 0.3632 | | 1,151.0721 | 1,151.0721 | 0.0307 | 0.0296 | 1,160.6546 |
| **Total** | **0.4284** | **0.8586** | **4.2117** | **0.0139** | **1.4310** | **0.0108** | **1.4418** | **0.3815** | **0.0101** | **0.3916** | | **1,431.9405** | **1,431.9405** | **0.0400** | **0.0700** | **1,453.8021** |

The Grove at Merced Project - Los Angeles-South Coast County, Winter

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

## 3.5 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 | 0.7786 | 8.4012 | 12.9301 | 0.0202 | | 0.3368 | 0.3368 | | 0.3201 | 0.3201 | 0.0000 | 1,944.1401 | 1,944.1401 | 0.4547 | | 1,955.5071 |
| **Total** | **0.7786** | **8.4012** | **12.9301** | **0.0202** | | **0.3368** | **0.3368** | | **0.3201** | **0.3201** | **0.0000** | **1,944.1401** | **1,944.1401** | **0.4547** | | **1,955.5071** |

### 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 | 0.0156 | 0.5626 | 0.2147 | 2.6100e-003 | 0.0897 | 2.7200e-003 | 0.0924 | 0.0258 | 2.6000e-003 | 0.0284 | | 280.8684 | 280.8684 | 9.3500e-003 | 0.0404 | 293.1475 |
| Worker | 0.4129 | 0.2959 | 3.9970 | 0.0113 | 1.3413 | 8.0900e-003 | 1.3494 | 0.3557 | 7.4500e-003 | 0.3632 | | 1,151.0721 | 1,151.0721 | 0.0307 | 0.0296 | 1,160.6546 |
| **Total** | **0.4284** | **0.8586** | **4.2117** | **0.0139** | **1.4310** | **0.0108** | **1.4418** | **0.3815** | **0.0101** | **0.3916** | | **1,431.9405** | **1,431.9405** | **0.0400** | **0.0700** | **1,453.8021** |

The Grove at Merced Project - Los Angeles-South Coast County, Winter

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

## 3.5 Building Construction - 2024

### 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 | 0.7407 | 8.0008 | 12.9355 | 0.0202 | | 0.2984 | 0.2984 | | 0.2834 | 0.2834 | | 1,944.3078 | 1,944.3078 | 0.4525 | | 1,955.6213 |
| **Total** | **0.7407** | **8.0008** | **12.9355** | **0.0202** | | **0.2984** | **0.2984** | | **0.2834** | **0.2834** | | **1,944.3078** | **1,944.3078** | **0.4525** | | **1,955.6213** |

### 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 | 0.0151 | 0.5638 | 0.2102 | 2.5700e-003 | 0.0897 | 2.7400e-003 | 0.0924 | 0.0258 | 2.6200e-003 | 0.0284 | | 276.6601 | 276.6601 | 9.3900e-003 | 0.0399 | 288.7713 |
| Worker | 0.3861 | 0.2642 | 3.7237 | 0.0109 | 1.3413 | 7.7600e-003 | 1.3491 | 0.3557 | 7.1500e-003 | 0.3629 | | 1,127.4478 | 1,127.4478 | 0.0278 | 0.0275 | 1,136.3378 |
| **Total** | **0.4011** | **0.8280** | **3.9339** | **0.0135** | **1.4310** | **0.0105** | **1.4415** | **0.3815** | **9.7700e-003** | **0.3913** | | **1,404.1079** | **1,404.1079** | **0.0372** | **0.0674** | **1,425.1091** |

The Grove at Merced Project - Los Angeles-South Coast County, Winter

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

## 3.5 Building Construction - 2024

### 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 | 0.7407 | 8.0008 | 12.9355 | 0.0202 | | 0.2984 | 0.2984 | | 0.2834 | 0.2834 | 0.0000 | 1,944.3078 | 1,944.3078 | 0.4525 | | 1,955.6213 |
| **Total** | **0.7407** | **8.0008** | **12.9355** | **0.0202** | | **0.2984** | **0.2984** | | **0.2834** | **0.2834** | **0.0000** | **1,944.3078** | **1,944.3078** | **0.4525** | | **1,955.6213** |

### 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 | 0.0151 | 0.5638 | 0.2102 | 2.5700e-003 | 0.0897 | 2.7400e-003 | 0.0924 | 0.0258 | 2.6200e-003 | 0.0284 | | 276.6601 | 276.6601 | 9.3900e-003 | 0.0399 | 288.7713 |
| Worker | 0.3861 | 0.2642 | 3.7237 | 0.0109 | 1.3413 | 7.7600e-003 | 1.3491 | 0.3557 | 7.1500e-003 | 0.3629 | | 1,127.4478 | 1,127.4478 | 0.0278 | 0.0275 | 1,136.3378 |
| **Total** | **0.4011** | **0.8280** | **3.9339** | **0.0135** | **1.4310** | **0.0105** | **1.4415** | **0.3815** | **9.7700e-003** | **0.3913** | | **1,404.1079** | **1,404.1079** | **0.0372** | **0.0674** | **1,425.1091** |

The Grove at Merced Project - Los Angeles-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 | 16.6467 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.4352 | 3.4059 | 5.2602 | 8.4600e-003 | | 0.1555 | 0.1555 | | 0.1544 | 0.1544 | | 806.8259 | 806.8259 | 0.1126 | | 809.6401 |
| **Total** | **17.0819** | **3.4059** | **5.2602** | **8.4600e-003** | | **0.1555** | **0.1555** | | **0.1544** | **0.1544** | | **806.8259** | **806.8259** | **0.1126** | | **809.6401** |

### 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 | 4.4500e-003 | 0.1608 | 0.0614 | 7.5000e-004 | 0.0256 | 7.8000e-004 | 0.0264 | 7.3800e-003 | 7.4000e-004 | 8.1200e-003 | | 80.2481 | 80.2481 | 2.6700e-003 | 0.0116 | 83.7564 |
| Worker | 0.0688 | 0.0493 | 0.6662 | 1.8700e-003 | 0.2236 | 1.3500e-003 | 0.2249 | 0.0593 | 1.2400e-003 | 0.0605 | | 191.8453 | 191.8453 | 5.1100e-003 | 4.9300e-003 | 193.4424 |
| **Total** | **0.0733** | **0.2101** | **0.7275** | **2.6200e-003** | **0.2492** | **2.1300e-003** | **0.2513** | **0.0667** | **1.9800e-003** | **0.0687** | | **272.0935** | **272.0935** | **7.7800e-003** | **0.0165** | **277.1989** |

The Grove at Merced Project - Los Angeles-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

### 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 | 16.6467 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.4352 | 3.4059 | 5.2602 | 8.4600e-003 | | 0.1555 | 0.1555 | | 0.1544 | 0.1544 | 0.0000 | 806.8259 | 806.8259 | 0.1126 | | 809.6401 |
| **Total** | **17.0819** | **3.4059** | **5.2602** | **8.4600e-003** | | **0.1555** | **0.1555** | | **0.1544** | **0.1544** | **0.0000** | **806.8259** | **806.8259** | **0.1126** | | **809.6401** |

### 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 | 4.4500e-003 | 0.1608 | 0.0614 | 7.5000e-004 | 0.0256 | 7.8000e-004 | 0.0264 | 7.3800e-003 | 7.4000e-004 | 8.1200e-003 | | 80.2481 | 80.2481 | 2.6700e-003 | 0.0116 | 83.7564 |
| Worker | 0.0688 | 0.0493 | 0.6662 | 1.8700e-003 | 0.2236 | 1.3500e-003 | 0.2249 | 0.0593 | 1.2400e-003 | 0.0605 | | 191.8453 | 191.8453 | 5.1100e-003 | 4.9300e-003 | 193.4424 |
| **Total** | **0.0733** | **0.2101** | **0.7275** | **2.6200e-003** | **0.2492** | **2.1300e-003** | **0.2513** | **0.0667** | **1.9800e-003** | **0.0687** | | **272.0935** | **272.0935** | **7.7800e-003** | **0.0165** | **277.1989** |

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

## 3.6 Architectural Coating - 2024

### 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 | 16.6467 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.4134 | 3.2270 | 5.2594 | 8.4600e-003 | | 0.1355 | 0.1355 | | 0.1344 | 0.1344 | | 806.8259 | 806.8259 | 0.1106 | | 809.5906 |
| **Total** | **17.0601** | **3.2270** | **5.2594** | **8.4600e-003** | | **0.1355** | **0.1355** | | **0.1344** | **0.1344** | | **806.8259** | **806.8259** | **0.1106** | | **809.5906** |

### 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 | 4.3000e-003 | 0.1611 | 0.0601 | 7.3000e-004 | 0.0256 | 7.8000e-004 | 0.0264 | 7.3800e-003 | 7.5000e-004 | 8.1300e-003 | | 79.0457 | 79.0457 | 2.6800e-003 | 0.0114 | 82.5061 |
| Worker | 0.0644 | 0.0440 | 0.6206 | 1.8200e-003 | 0.2236 | 1.2900e-003 | 0.2249 | 0.0593 | 1.1900e-003 | 0.0605 | | 187.9080 | 187.9080 | 4.6300e-003 | 4.5800e-003 | 189.3896 |
| **Total** | **0.0687** | **0.2051** | **0.6807** | **2.5500e-003** | **0.2492** | **2.0700e-003** | **0.2513** | **0.0667** | **1.9400e-003** | **0.0686** | | **266.9537** | **266.9537** | **7.3100e-003** | **0.0160** | **271.8957** |

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

## 3.6 Architectural Coating - 2024

### 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 | 16.6467 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.4134 | 3.2270 | 5.2594 | 8.4600e-003 | | 0.1355 | 0.1355 | | 0.1344 | 0.1344 | 0.0000 | 806.8259 | 806.8259 | 0.1106 | | 809.5906 |
| **Total** | **17.0601** | **3.2270** | **5.2594** | **8.4600e-003** | | **0.1355** | **0.1355** | | **0.1344** | **0.1344** | **0.0000** | **806.8259** | **806.8259** | **0.1106** | | **809.5906** |

### 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 | 4.3000e-003 | 0.1611 | 0.0601 | 7.3000e-004 | 0.0256 | 7.8000e-004 | 0.0264 | 7.3800e-003 | 7.5000e-004 | 8.1300e-003 | | 79.0457 | 79.0457 | 2.6800e-003 | 0.0114 | 82.5061 |
| Worker | 0.0644 | 0.0440 | 0.6206 | 1.8200e-003 | 0.2236 | 1.2900e-003 | 0.2249 | 0.0593 | 1.1900e-003 | 0.0605 | | 187.9080 | 187.9080 | 4.6300e-003 | 4.5800e-003 | 189.3896 |
| **Total** | **0.0687** | **0.2051** | **0.6807** | **2.5500e-003** | **0.2492** | **2.0700e-003** | **0.2513** | **0.0667** | **1.9400e-003** | **0.0686** | | **266.9537** | **266.9537** | **7.3100e-003** | **0.0160** | **271.8957** |

**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

Increase Density

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 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 | 0.7420 | 0.8084 | 7.3665 | 0.0158 | 1.7239 | 0.0118 | 1.7357 | 0.4592 | 0.0110 | 0.4702 | | 1,641.0354 | 1,641.0354 | 0.1149 | 0.0715 | 1,665.2122 |
| Unmitigated | 0.7802 | 0.8707 | 7.9490 | 0.0173 | 1.8922 | 0.0129 | 1.9051 | 0.5040 | 0.0120 | 0.5160 | | 1,797.5477 | 1,797.5477 | 0.1230 | 0.0770 | 1,823.5618 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Condo/Townhouse | 263.02 | 263.02 | 263.02 | 898,766 | 818,799 |
| Enclosed Parking Structure | 0.00 | 0.00 | 0.00 | | |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Total | 263.02 | 263.02 | 263.02 | 898,766 | 818,799 |

## 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 |
| Condo/Townhouse | 14.70 | 5.90 | 8.70 | 40.20 | 19.20 | 40.60 | 86 | 11 | 3 |

**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 |
| Enclosed Parking Structure | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Other Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Condo/Townhouse | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |
| Enclosed Parking Structure | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |
| Other Asphalt Surfaces | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |
| Other Non-Asphalt Surfaces | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |
| Parking Lot | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

The Grove at Merced Project - Los Angeles-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 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.0186 | 0.1592 | 0.0677 | 1.0200e-003 | | 0.0129 | 0.0129 | | 0.0129 | 0.0129 | | 203.1653 | 203.1653 | 3.8900e-003 | 3.7200e-003 | 204.3726 |
| NaturalGas Unmitigated | 0.0186 | 0.1592 | 0.0677 | 1.0200e-003 | | 0.0129 | 0.0129 | | 0.0129 | 0.0129 | | 203.1653 | 203.1653 | 3.8900e-003 | 3.7200e-003 | 204.3726 |

## 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 | | | | | |
| Condo/Townhouse | 1726.91 | 0.0186 | 0.1592 | 0.0677 | 1.0200e-003 | | 0.0129 | 0.0129 | | 0.0129 | 0.0129 | | 203.1653 | 203.1653 | 3.8900e-003 | 3.7200e-003 | 204.3726 |
| Enclosed Parking Structure | 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 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 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** | | **0.0186** | **0.1592** | **0.0677** | **1.0200e-003** | | **0.0129** | **0.0129** | | **0.0129** | **0.0129** | | **203.1653** | **203.1653** | **3.8900e-003** | **3.7200e-003** | **204.3726** |

**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 | | | | | |
| Condo/Townhouse | 1.72691 | 0.0186 | 0.1592 | 0.0677 | 1.0200e-003 | | 0.0129 | 0.0129 | | 0.0129 | 0.0129 | | 203.1653 | 203.1653 | 3.8900e-003 | 3.7200e-003 | 204.3726 |
| Enclosed Parking Structure | 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 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 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** | | **0.0186** | **0.1592** | **0.0677** | **1.0200e-003** | | **0.0129** | **0.0129** | | **0.0129** | **0.0129** | | **203.1653** | **203.1653** | **3.8900e-003** | **3.7200e-003** | **204.3726** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

No Hearths Installed

The Grove at Merced Project - Los Angeles-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 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 1.7770 | 0.0372 | 3.2290 | 1.7000e-004 | | 0.0179 | 0.0179 | | 0.0179 | 0.0179 | 0.0000 | 5.8210 | 5.8210 | 5.6300e-003 | 0.0000 | 5.9618 |
| Unmitigated | 1.7770 | 0.0372 | 3.2290 | 1.7000e-004 | | 0.0179 | 0.0179 | | 0.0179 | 0.0179 | 0.0000 | 5.8210 | 5.8210 | 5.6300e-003 | 0.0000 | 5.9618 |

## 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 | 0.1368 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 1.5423 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.0979 | 0.0372 | 3.2290 | 1.7000e-004 | | 0.0179 | 0.0179 | | 0.0179 | 0.0179 | | 5.8210 | 5.8210 | 5.6300e-003 | | 5.9618 |
| **Total** | **1.7770** | **0.0372** | **3.2290** | **1.7000e-004** | | **0.0179** | **0.0179** | | **0.0179** | **0.0179** | **0.0000** | **5.8210** | **5.8210** | **5.6300e-003** | **0.0000** | **5.9618** |

**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 | 0.1368 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 1.5423 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.0979 | 0.0372 | 3.2290 | 1.7000e-004 | | 0.0179 | 0.0179 | | 0.0179 | 0.0179 | | 5.8210 | 5.8210 | 5.6300e-003 | | 5.9618 |
| **Total** | **1.7770** | **0.0372** | **3.2290** | **1.7000e-004** | | **0.0179** | **0.0179** | | **0.0179** | **0.0179** | **0.0000** | **5.8210** | **5.8210** | **5.6300e-003** | **0.0000** | **5.9618** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

**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

## 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

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

# The Grove at Merced Project

**Los Angeles-South Coast County, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Enclosed Parking Structure | 78.00 | Space | 0.00 | 31,200.00 | 0 |
| Other Asphalt Surfaces | 24.73 | 1000sqft | 0.57 | 24,725.00 | 0 |
| Other Non-Asphalt Surfaces | 14.67 | 1000sqft | 0.34 | 14,666.00 | 0 |
| Parking Lot | 8.00 | Space | 0.04 | 1,561.00 | 0 |
| Condo/Townhouse | 39.00 | Dwelling Unit | 1.30 | 76,605.00 | 112 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 33 |
| **Climate Zone** | 9 | | | **Operational Year** | 2024 |
| **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 - Site Plan:
12 x 1,325 SF
15 x 1,375 SF
12 x 1,475 SF

Construction Phase - Approximate Schedule

Off-road Equipment - Infill Residential Equipment Inventory

Off-road Equipment - Infill Residential Equipment Inventory

Off-road Equipment - Infill Residential Equipment Inventory

The Grove at Merced Project - Los Angeles-South Coast County, Summer

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

Off-road Equipment - Infill Residential Equipment Inventory

Off-road Equipment - Infill Residential Equipment Inventory

Trips and VMT - Project Trips

Grading -

Architectural Coating -

Vehicle Trips - Focused Traffic Analysis: 263 daily trips

Woodstoves - Project Design: No Hearths

Area Coating -

Sequestration -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Fleet Mix -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 3.00 | 36.00 |
| tblConstructionPhase | NumDays | 6.00 | 18.00 |
| tblConstructionPhase | NumDays | 10.00 | 30.00 |
| tblConstructionPhase | NumDays | 220.00 | 420.00 |
| tblConstructionPhase | NumDays | 10.00 | 30.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblFireplaces | FireplaceDayYear | 25.00 | 0.00 |
| tblFireplaces | FireplaceHourDay | 3.00 | 0.00 |
| tblFireplaces | FireplaceWoodMass | 1,019.20 | 0.00 |
| tblFireplaces | NumberGas | 33.15 | 0.00 |

The Grove at Merced Project - Los Angeles-South Coast County, Summer

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

| | | | |
|---|---|---|---|
| tblFireplaces | NumberNoFireplace | 3.90 | 0.00 |
| tblFireplaces | NumberWood | 1.95 | 0.00 |
| tblGrading | MaterialExported | 0.00 | 200.00 |
| tblLandUse | LandUseSquareFeet | 24,730.00 | 24,725.00 |
| tblLandUse | LandUseSquareFeet | 14,670.00 | 14,666.00 |
| tblLandUse | LandUseSquareFeet | 3,200.00 | 1,561.00 |
| tblLandUse | LandUseSquareFeet | 39,000.00 | 76,605.00 |
| tblLandUse | LotAcreage | 0.70 | 0.00 |
| tblLandUse | LotAcreage | 0.07 | 0.04 |
| tblLandUse | LotAcreage | 2.44 | 1.30 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblTripsAndVMT | HaulingTripNumber | 25.00 | 180.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 8.00 |
| tblTripsAndVMT | VendorTripNumber | 16.00 | 14.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 4.00 |
| tblTripsAndVMT | WorkerTripNumber | 8.00 | 30.00 |
| tblTripsAndVMT | WorkerTripNumber | 10.00 | 30.00 |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 30.00 |
| tblTripsAndVMT | WorkerTripNumber | 58.00 | 120.00 |

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

| | | | |
|---|---|---|---|
| tblTripsAndVMT | WorkerTripNumber | 12.00 | 20.00 |
| tblVehicleTrips | ST_TR | 8.14 | 6.74 |
| tblVehicleTrips | SU_TR | 6.28 | 6.74 |
| tblVehicleTrips | WD_TR | 7.32 | 6.74 |
| tblWoodstoves | NumberCatalytic | 1.95 | 0.00 |
| tblWoodstoves | NumberNoncatalytic | 1.95 | 0.00 |
| tblWoodstoves | WoodstoveDayYear | 25.00 | 0.00 |
| tblWoodstoves | WoodstoveWoodMass | 999.60 | 0.00 |

## 2.0 Emissions Summary

The Grove at Merced Project - Los Angeles-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 | 1.2788 | 13.2254 | 17.9167 | 0.0352 | 1.4310 | 0.4641 | 1.8368 | 0.3815 | 0.4274 | 0.7668 | 0.0000 | 3,486.3468 | 3,486.3468 | 0.6110 | 0.1155 | 3,520.4556 |
| 2023 | 18.3295 | 12.8105 | 23.5312 | 0.0459 | 1.6802 | 0.5051 | 2.1853 | 0.4482 | 0.4865 | 0.9347 | 0.0000 | 4,529.1323 | 4,529.1323 | 0.6146 | 0.0842 | 4,569.5724 |
| 2024 | 18.2387 | 12.1993 | 23.1791 | 0.0454 | 1.6802 | 0.4464 | 2.1266 | 0.4482 | 0.4295 | 0.8777 | 0.0000 | 4,494.6625 | 4,494.6625 | 0.6072 | 0.0812 | 4,534.0266 |
| **Maximum** | **18.3295** | **13.2254** | **23.5312** | **0.0459** | **1.6802** | **0.5051** | **2.1853** | **0.4482** | **0.4865** | **0.9347** | **0.0000** | **4,529.1323** | **4,529.1323** | **0.6146** | **0.1155** | **4,569.5724** |

### 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 | 1.2788 | 13.2254 | 17.9167 | 0.0352 | 1.4310 | 0.4641 | 1.8368 | 0.3815 | 0.4274 | 0.7668 | 0.0000 | 3,486.3468 | 3,486.3468 | 0.6110 | 0.1155 | 3,520.4556 |
| 2023 | 18.3295 | 12.8105 | 23.5312 | 0.0459 | 1.6802 | 0.5051 | 2.1853 | 0.4482 | 0.4865 | 0.9347 | 0.0000 | 4,529.1323 | 4,529.1323 | 0.6146 | 0.0842 | 4,569.5724 |
| 2024 | 18.2387 | 12.1993 | 23.1791 | 0.0454 | 1.6802 | 0.4464 | 2.1266 | 0.4482 | 0.4295 | 0.8777 | 0.0000 | 4,494.6625 | 4,494.6625 | 0.6072 | 0.0812 | 4,534.0266 |
| **Maximum** | **18.3295** | **13.2254** | **23.5312** | **0.0459** | **1.6802** | **0.5051** | **2.1853** | **0.4482** | **0.4865** | **0.9347** | **0.0000** | **4,529.1323** | **4,529.1323** | **0.6146** | **0.1155** | **4,569.5724** |

The Grove at Merced Project - Los Angeles-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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

The Grove at Merced Project - Los Angeles-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 | 1.7770 | 0.0372 | 3.2290 | 1.7000e-004 | | 0.0179 | 0.0179 | | 0.0179 | 0.0179 | 0.0000 | 5.8210 | 5.8210 | 5.6300e-003 | 0.0000 | 5.9618 |
| Energy | 0.0186 | 0.1592 | 0.0677 | 1.0200e-003 | | 0.0129 | 0.0129 | | 0.0129 | 0.0129 | | 203.1653 | 203.1653 | 3.8900e-003 | 3.7200e-003 | 204.3726 |
| Mobile | 0.7940 | 0.8064 | 8.1321 | 0.0181 | 1.8922 | 0.0129 | 1.9051 | 0.5040 | 0.0120 | 0.5160 | | 1,877.3608 | 1,877.3608 | 0.1197 | 0.0737 | 1,902.3263 |
| **Total** | **2.5896** | **1.0027** | **11.4288** | **0.0193** | **1.8922** | **0.0436** | **1.9358** | **0.5040** | **0.0427** | **0.5467** | **0.0000** | **2,086.3471** | **2,086.3471** | **0.1293** | **0.0775** | **2,112.6607** |

### 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 | 1.7770 | 0.0372 | 3.2290 | 1.7000e-004 | | 0.0179 | 0.0179 | | 0.0179 | 0.0179 | 0.0000 | 5.8210 | 5.8210 | 5.6300e-003 | 0.0000 | 5.9618 |
| Energy | 0.0186 | 0.1592 | 0.0677 | 1.0200e-003 | | 0.0129 | 0.0129 | | 0.0129 | 0.0129 | | 203.1653 | 203.1653 | 3.8900e-003 | 3.7200e-003 | 204.3726 |
| Mobile | 0.7561 | 0.7486 | 7.5131 | 0.0165 | 1.7239 | 0.0118 | 1.7357 | 0.4592 | 0.0110 | 0.4702 | | 1,713.6966 | 1,713.6966 | 0.1115 | 0.0685 | 1,736.8861 |
| **Total** | **2.5518** | **0.9450** | **10.8098** | **0.0177** | **1.7239** | **0.0426** | **1.7664** | **0.4592** | **0.0417** | **0.5009** | **0.0000** | **1,922.6829** | **1,922.6829** | **0.1211** | **0.0722** | **1,947.2205** |

**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** | **1.46** | **5.76** | **5.42** | **8.14** | **8.90** | **2.43** | **8.75** | **8.90** | **2.30** | **8.38** | **0.00** | **7.84** | **7.84** | **6.34** | **6.80** | **7.83** |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/13/2022 | 7/23/2022 | 6 | 36 | |
| 2 | Grading | Grading | 7/25/2022 | 8/13/2022 | 6 | 18 | |
| 3 | Paving | Paving | 8/15/2022 | 9/17/2022 | 6 | 30 | |
| 4 | Building Construction | Building Construction | 9/19/2022 | 1/20/2024 | 6 | 420 | |
| 5 | Architectural Coating | Architectural Coating | 12/18/2023 | 1/20/2024 | 6 | 30 | |

**Acres of Grading (Site Preparation Phase): 13.5**

**Acres of Grading (Grading Phase): 13.5**

**Acres of Paving: 0.95**

**Residential Indoor: 155,125; Residential Outdoor: 51,708; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 4,329 (Architectural Coating – sqft)**

### OffRoad Equipment

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Crawler Tractors | 1 | 6.00 | 212 | 0.43 |
| Site Preparation | Excavators | 1 | 7.00 | 158 | 0.38 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Grading | Crawler Tractors | 1 | 6.00 | 212 | 0.43 |
| Grading | Excavators | 1 | 7.00 | 158 | 0.38 |
| Grading | Graders | 1 | 6.00 | 187 | 0.41 |

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

| | | | | | |
|---|---|---|---|---|---|
| Grading | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Paving | Cement and Mortar Mixers | 2 | 6.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 6.00 | 130 | 0.42 |
| Paving | Paving Equipment | 1 | 6.00 | 132 | 0.36 |
| Paving | Rollers | 1 | 6.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 1 | 6.00 | 97 | 0.37 |
| Building Construction | Aerial Lifts | 2 | 7.00 | 63 | 0.31 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Rough Terrain Forklifts | 2 | 7.00 | 100 | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 2 | 6.00 | 97 | 0.37 |
| Architectural Coating | Aerial Lifts | 2 | 6.00 | 63 | 0.31 |
| Architectural Coating | Air Compressors | 2 | 6.00 | 78 | 0.48 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 3 | 30.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 4 | 30.00 | 0.00 | 180.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 30.00 | 8.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 7 | 120.00 | 14.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 4 | 20.00 | 4.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

The Grove at Merced Project - Los Angeles-South Coast County, Summer

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

## 3.2 Site Preparation - 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 | | | | | 0.3977 | 0.0000 | 0.3977 | 0.0429 | 0.0000 | 0.0429 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.6902 | 7.5269 | 6.5426 | 0.0131 | | 0.3241 | 0.3241 | | 0.2981 | 0.2981 | | 1,270.3717 | 1,270.3717 | 0.4109 | | 1,280.6433 |
| **Total** | **0.6902** | **7.5269** | **6.5426** | **0.0131** | **0.3977** | **0.3241** | **0.7218** | **0.0429** | **0.2981** | **0.3411** | | **1,270.3717** | **1,270.3717** | **0.4109** | | **1,280.6433** |

### 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 | 0.1038 | 0.0758 | 1.1824 | 3.0700e-003 | 0.3353 | 2.1500e-003 | 0.3375 | 0.0889 | 1.9800e-003 | 0.0909 | | 312.0381 | 312.0381 | 8.4500e-003 | 7.5100e-003 | 314.4863 |
| **Total** | **0.1038** | **0.0758** | **1.1824** | **3.0700e-003** | **0.3353** | **2.1500e-003** | **0.3375** | **0.0889** | **1.9800e-003** | **0.0909** | | **312.0381** | **312.0381** | **8.4500e-003** | **7.5100e-003** | **314.4863** |

The Grove at Merced Project - Los Angeles-South Coast County, Summer

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

## 3.2 Site Preparation - 2022

### Mitigated Construction 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 | | | | | 0.1551 | 0.0000 | 0.1551 | 0.0168 | 0.0000 | 0.0168 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.6902 | 7.5269 | 6.5426 | 0.0131 | | 0.3241 | 0.3241 | | 0.2981 | 0.2981 | 0.0000 | 1,270.3717 | 1,270.3717 | 0.4109 | | 1,280.6433 |
| **Total** | **0.6902** | **7.5269** | **6.5426** | **0.0131** | **0.1551** | **0.3241** | **0.4792** | **0.0168** | **0.2981** | **0.3149** | **0.0000** | **1,270.3717** | **1,270.3717** | **0.4109** | | **1,280.6433** |

### 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 | 0.1038 | 0.0758 | 1.1824 | 3.0700e-003 | 0.3353 | 2.1500e-003 | 0.3375 | 0.0889 | 1.9800e-003 | 0.0909 | | 312.0381 | 312.0381 | 8.4500e-003 | 7.5100e-003 | 314.4863 |
| **Total** | **0.1038** | **0.0758** | **1.1824** | **3.0700e-003** | **0.3353** | **2.1500e-003** | **0.3375** | **0.0889** | **1.9800e-003** | **0.0909** | | **312.0381** | **312.0381** | **8.4500e-003** | **7.5100e-003** | **314.4863** |

**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 | | | | | 0.7966 | 0.0000 | 0.7966 | 0.0861 | 0.0000 | 0.0861 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.0014 | 11.4701 | 7.8339 | 0.0181 | | 0.4495 | 0.4495 | | 0.4135 | 0.4135 | | 1,751.3309 | 1,751.3309 | 0.5664 | | 1,765.4913 |
| **Total** | **1.0014** | **11.4701** | **7.8339** | **0.0181** | **0.7966** | **0.4495** | **1.2461** | **0.0861** | **0.4135** | **0.4996** | | **1,751.3309** | **1,751.3309** | **0.5664** | | **1,765.4913** |

### 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 | 0.0466 | 1.6795 | 0.3916 | 6.2100e-003 | 0.1750 | 0.0125 | 0.1875 | 0.0480 | 0.0119 | 0.0599 | | 680.7756 | 680.7756 | 0.0362 | 0.1080 | 713.8677 |
| 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 | 0.1038 | 0.0758 | 1.1824 | 3.0700e-003 | 0.3353 | 2.1500e-003 | 0.3375 | 0.0889 | 1.9800e-003 | 0.0909 | | 312.0381 | 312.0381 | 8.4500e-003 | 7.5100e-003 | 314.4863 |
| **Total** | **0.1504** | **1.7553** | **1.5740** | **9.2800e-003** | **0.5104** | **0.0146** | **0.5250** | **0.1369** | **0.0139** | **0.1508** | | **992.8137** | **992.8137** | **0.0446** | **0.1155** | **1,028.3540** |

**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 | | | | | 0.3107 | 0.0000 | 0.3107 | 0.0336 | 0.0000 | 0.0336 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.0014 | 11.4701 | 7.8339 | 0.0181 | | 0.4495 | 0.4495 | | 0.4135 | 0.4135 | 0.0000 | 1,751.3309 | 1,751.3309 | 0.5664 | | 1,765.4913 |
| **Total** | **1.0014** | **11.4701** | **7.8339** | **0.0181** | **0.3107** | **0.4495** | **0.7602** | **0.0336** | **0.4135** | **0.4471** | **0.0000** | **1,751.3309** | **1,751.3309** | **0.5664** | | **1,765.4913** |

### 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 | 0.0466 | 1.6795 | 0.3916 | 6.2100e-003 | 0.1750 | 0.0125 | 0.1875 | 0.0480 | 0.0119 | 0.0599 | | 680.7756 | 680.7756 | 0.0362 | 0.1080 | 713.8677 |
| 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 | 0.1038 | 0.0758 | 1.1824 | 3.0700e-003 | 0.3353 | 2.1500e-003 | 0.3375 | 0.0889 | 1.9800e-003 | 0.0909 | | 312.0381 | 312.0381 | 8.4500e-003 | 7.5100e-003 | 314.4863 |
| **Total** | **0.1504** | **1.7553** | **1.5740** | **9.2800e-003** | **0.5104** | **0.0146** | **0.5250** | **0.1369** | **0.0139** | **0.1508** | | **992.8137** | **992.8137** | **0.0446** | **0.1155** | **1,028.3540** |

The Grove at Merced Project - Los Angeles-South Coast County, Summer

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

## 3.4 Paving - 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 | 0.6252 | 5.9808 | 7.6088 | 0.0120 | | 0.3020 | 0.3020 | | 0.2796 | 0.2796 | | 1,129.5763 | 1,129.5763 | 0.3487 | | 1,138.2935 |
| Paving | 0.0533 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **0.6785** | **5.9808** | **7.6088** | **0.0120** | | **0.3020** | **0.3020** | | **0.2796** | **0.2796** | | **1,129.5763** | **1,129.5763** | **0.3487** | | **1,138.2935** |

### 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 | 0.0157 | 0.3919 | 0.1344 | 1.5700e-003 | 0.0512 | 3.7300e-003 | 0.0550 | 0.0148 | 3.5700e-003 | 0.0183 | | 168.3693 | 168.3693 | 5.6300e-003 | 0.0243 | 175.7401 |
| Worker | 0.1038 | 0.0758 | 1.1824 | 3.0700e-003 | 0.3353 | 2.1500e-003 | 0.3375 | 0.0889 | 1.9800e-003 | 0.0909 | | 312.0381 | 312.0381 | 8.4500e-003 | 7.5100e-003 | 314.4863 |
| **Total** | **0.1196** | **0.4677** | **1.3168** | **4.6400e-003** | **0.3866** | **5.8800e-003** | **0.3925** | **0.1037** | **5.5500e-003** | **0.1092** | | **480.4074** | **480.4074** | **0.0141** | **0.0318** | **490.2265** |

The Grove at Merced Project - Los Angeles-South Coast County, Summer

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

## 3.4 Paving - 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 | 0.6252 | 5.9808 | 7.6088 | 0.0120 | | 0.3020 | 0.3020 | | 0.2796 | 0.2796 | 0.0000 | 1,129.5763 | 1,129.5763 | 0.3487 | | 1,138.2935 |
| Paving | 0.0533 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **0.6785** | **5.9808** | **7.6088** | **0.0120** | | **0.3020** | **0.3020** | | **0.2796** | **0.2796** | **0.0000** | **1,129.5763** | **1,129.5763** | **0.3487** | | **1,138.2935** |

**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 | 0.0157 | 0.3919 | 0.1344 | 1.5700e-003 | 0.0512 | 3.7300e-003 | 0.0550 | 0.0148 | 3.5700e-003 | 0.0183 | | 168.3693 | 168.3693 | 5.6300e-003 | 0.0243 | 175.7401 |
| Worker | 0.1038 | 0.0758 | 1.1824 | 3.0700e-003 | 0.3353 | 2.1500e-003 | 0.3375 | 0.0889 | 1.9800e-003 | 0.0909 | | 312.0381 | 312.0381 | 8.4500e-003 | 7.5100e-003 | 314.4863 |
| **Total** | **0.1196** | **0.4677** | **1.3168** | **4.6400e-003** | **0.3866** | **5.8800e-003** | **0.3925** | **0.1037** | **5.5500e-003** | **0.1092** | | **480.4074** | **480.4074** | **0.0141** | **0.0318** | **490.2265** |

The Grove at Merced Project - Los Angeles-South Coast County, Summer

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

## 3.5 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 | 0.8359 | 9.0127 | 12.9520 | 0.0202 | | 0.3906 | 0.3906 | | 0.3711 | 0.3711 | | 1,943.5481 | 1,943.5481 | 0.4567 | | 1,954.9651 |
| **Total** | **0.8359** | **9.0127** | **12.9520** | **0.0202** | | **0.3906** | **0.3906** | | **0.3711** | **0.3711** | | **1,943.5481** | **1,943.5481** | **0.4567** | | **1,954.9651** |

### 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 | 0.0276 | 0.6858 | 0.2351 | 2.7400e-003 | 0.0897 | 6.5300e-003 | 0.0962 | 0.0258 | 6.2500e-003 | 0.0321 | | 294.6462 | 294.6462 | 9.8500e-003 | 0.0425 | 307.5452 |
| Worker | 0.4153 | 0.3032 | 4.7296 | 0.0123 | 1.3413 | 8.6000e-003 | 1.3499 | 0.3557 | 7.9100e-003 | 0.3636 | | 1,248.1525 | 1,248.1525 | 0.0338 | 0.0300 | 1,257.9454 |
| **Total** | **0.4429** | **0.9890** | **4.9647** | **0.0150** | **1.4310** | **0.0151** | **1.4461** | **0.3815** | **0.0142** | **0.3957** | | **1,542.7987** | **1,542.7987** | **0.0436** | **0.0725** | **1,565.4906** |

The Grove at Merced Project - Los Angeles-South Coast County, Summer

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

## 3.5 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 | 0.8359 | 9.0127 | 12.9520 | 0.0202 | | 0.3906 | 0.3906 | | 0.3711 | 0.3711 | 0.0000 | 1,943.5481 | 1,943.5481 | 0.4567 | | 1,954.9651 |
| **Total** | **0.8359** | **9.0127** | **12.9520** | **0.0202** | | **0.3906** | **0.3906** | | **0.3711** | **0.3711** | **0.0000** | **1,943.5481** | **1,943.5481** | **0.4567** | | **1,954.9651** |

### 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 | 0.0276 | 0.6858 | 0.2351 | 2.7400e-003 | 0.0897 | 6.5300e-003 | 0.0962 | 0.0258 | 6.2500e-003 | 0.0321 | | 294.6462 | 294.6462 | 9.8500e-003 | 0.0425 | 307.5452 |
| Worker | 0.4153 | 0.3032 | 4.7296 | 0.0123 | 1.3413 | 8.6000e-003 | 1.3499 | 0.3557 | 7.9100e-003 | 0.3636 | | 1,248.1525 | 1,248.1525 | 0.0338 | 0.0300 | 1,257.9454 |
| **Total** | **0.4429** | **0.9890** | **4.9647** | **0.0150** | **1.4310** | **0.0151** | **1.4461** | **0.3815** | **0.0142** | **0.3957** | | **1,542.7987** | **1,542.7987** | **0.0436** | **0.0725** | **1,565.4906** |

The Grove at Merced Project - Los Angeles-South Coast County, Summer

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

## 3.5 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 | 0.7786 | 8.4012 | 12.9301 | 0.0202 | | 0.3368 | 0.3368 | | 0.3201 | 0.3201 | | 1,944.1401 | 1,944.1401 | 0.4547 | | 1,955.5071 |
| **Total** | **0.7786** | **8.4012** | **12.9301** | **0.0202** | | **0.3368** | **0.3368** | | **0.3201** | **0.3201** | | **1,944.1401** | **1,944.1401** | **0.4547** | | **1,955.5071** |

### 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 | 0.0161 | 0.5374 | 0.2082 | 2.6100e-003 | 0.0897 | 2.7000e-003 | 0.0924 | 0.0258 | 2.5800e-003 | 0.0284 | | 280.3955 | 280.3955 | 9.4000e-003 | 0.0403 | 292.6436 |
| Worker | 0.3843 | 0.2679 | 4.3485 | 0.0119 | 1.3413 | 8.0900e-003 | 1.3494 | 0.3557 | 7.4500e-003 | 0.3632 | | 1,215.1353 | 1,215.1353 | 0.0303 | 0.0277 | 1,224.1450 |
| **Total** | **0.4004** | **0.8053** | **4.5567** | **0.0145** | **1.4310** | **0.0108** | **1.4418** | **0.3815** | **0.0100** | **0.3916** | | **1,495.5308** | **1,495.5308** | **0.0397** | **0.0680** | **1,516.7886** |

The Grove at Merced Project - Los Angeles-South Coast County, Summer

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

## 3.5 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 | 0.7786 | 8.4012 | 12.9301 | 0.0202 | | 0.3368 | 0.3368 | | 0.3201 | 0.3201 | 0.0000 | 1,944.1401 | 1,944.1401 | 0.4547 | | 1,955.5071 |
| **Total** | **0.7786** | **8.4012** | **12.9301** | **0.0202** | | **0.3368** | **0.3368** | | **0.3201** | **0.3201** | **0.0000** | **1,944.1401** | **1,944.1401** | **0.4547** | | **1,955.5071** |

### 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 | 0.0161 | 0.5374 | 0.2082 | 2.6100e-003 | 0.0897 | 2.7000e-003 | 0.0924 | 0.0258 | 2.5800e-003 | 0.0284 | | 280.3955 | 280.3955 | 9.4000e-003 | 0.0403 | 292.6436 |
| Worker | 0.3843 | 0.2679 | 4.3485 | 0.0119 | 1.3413 | 8.0900e-003 | 1.3494 | 0.3557 | 7.4500e-003 | 0.3632 | | 1,215.1353 | 1,215.1353 | 0.0303 | 0.0277 | 1,224.1450 |
| **Total** | **0.4004** | **0.8053** | **4.5567** | **0.0145** | **1.4310** | **0.0108** | **1.4418** | **0.3815** | **0.0100** | **0.3916** | | **1,495.5308** | **1,495.5308** | **0.0397** | **0.0680** | **1,516.7886** |

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

## 3.5 Building Construction - 2024

### 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 | 0.7407 | 8.0008 | 12.9355 | 0.0202 | | 0.2984 | 0.2984 | | 0.2834 | 0.2834 | | 1,944.3078 | 1,944.3078 | 0.4525 | | 1,955.6213 |
| **Total** | **0.7407** | **8.0008** | **12.9355** | **0.0202** | | **0.2984** | **0.2984** | | **0.2834** | **0.2834** | | **1,944.3078** | **1,944.3078** | **0.4525** | | **1,955.6213** |

### 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 | 0.0156 | 0.5385 | 0.2038 | 2.5600e-003 | 0.0897 | 2.7200e-003 | 0.0924 | 0.0258 | 2.6000e-003 | 0.0284 | | 276.1845 | 276.1845 | 9.4300e-003 | 0.0398 | 288.2656 |
| Worker | 0.3582 | 0.2392 | 4.0476 | 0.0115 | 1.3413 | 7.7600e-003 | 1.3491 | 0.3557 | 7.1500e-003 | 0.3629 | | 1,190.0868 | 1,190.0868 | 0.0274 | 0.0258 | 1,198.4464 |
| **Total** | **0.3738** | **0.7777** | **4.2513** | **0.0141** | **1.4310** | **0.0105** | **1.4415** | **0.3815** | **9.7500e-003** | **0.3913** | | **1,466.2712** | **1,466.2712** | **0.0368** | **0.0655** | **1,486.7120** |

The Grove at Merced Project - Los Angeles-South Coast County, Summer

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

## 3.5 Building Construction - 2024

### 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 | 0.7407 | 8.0008 | 12.9355 | 0.0202 | | 0.2984 | 0.2984 | | 0.2834 | 0.2834 | 0.0000 | 1,944.3078 | 1,944.3078 | 0.4525 | | 1,955.6213 |
| **Total** | **0.7407** | **8.0008** | **12.9355** | **0.0202** | | **0.2984** | **0.2984** | | **0.2834** | **0.2834** | **0.0000** | **1,944.3078** | **1,944.3078** | **0.4525** | | **1,955.6213** |

### 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 | 0.0156 | 0.5385 | 0.2038 | 2.5600e-003 | 0.0897 | 2.7200e-003 | 0.0924 | 0.0258 | 2.6000e-003 | 0.0284 | | 276.1845 | 276.1845 | 9.4300e-003 | 0.0398 | 288.2656 |
| Worker | 0.3582 | 0.2392 | 4.0476 | 0.0115 | 1.3413 | 7.7600e-003 | 1.3491 | 0.3557 | 7.1500e-003 | 0.3629 | | 1,190.0868 | 1,190.0868 | 0.0274 | 0.0258 | 1,198.4464 |
| **Total** | **0.3738** | **0.7777** | **4.2513** | **0.0141** | **1.4310** | **0.0105** | **1.4415** | **0.3815** | **9.7500e-003** | **0.3913** | | **1,466.2712** | **1,466.2712** | **0.0368** | **0.0655** | **1,486.7120** |

The Grove at Merced Project - Los Angeles-South Coast County, Summer

**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 | 16.6467 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.4352 | 3.4059 | 5.2602 | 8.4600e-003 | | 0.1555 | 0.1555 | | 0.1544 | 0.1544 | | 806.8259 | 806.8259 | 0.1126 | | 809.6401 |
| **Total** | **17.0819** | **3.4059** | **5.2602** | **8.4600e-003** | | **0.1555** | **0.1555** | | **0.1544** | **0.1544** | | **806.8259** | **806.8259** | **0.1126** | | **809.6401** |

### 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 | 4.6100e-003 | 0.1535 | 0.0595 | 7.4000e-004 | 0.0256 | 7.7000e-004 | 0.0264 | 7.3800e-003 | 7.4000e-004 | 8.1200e-003 | | 80.1130 | 80.1130 | 2.6800e-003 | 0.0115 | 83.6124 |
| Worker | 0.0640 | 0.0447 | 0.7248 | 1.9800e-003 | 0.2236 | 1.3500e-003 | 0.2249 | 0.0593 | 1.2400e-003 | 0.0605 | | 202.5226 | 202.5226 | 5.0400e-003 | 4.6200e-003 | 204.0242 |
| **Total** | **0.0687** | **0.1982** | **0.7842** | **2.7200e-003** | **0.2492** | **2.1200e-003** | **0.2513** | **0.0667** | **1.9800e-003** | **0.0687** | | **282.6356** | **282.6356** | **7.7200e-003** | **0.0161** | **287.6366** |

**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 | 16.6467 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.4352 | 3.4059 | 5.2602 | 8.4600e-003 | | 0.1555 | 0.1555 | | 0.1544 | 0.1544 | 0.0000 | 806.8259 | 806.8259 | 0.1126 | | 809.6401 |
| **Total** | **17.0819** | **3.4059** | **5.2602** | **8.4600e-003** | | **0.1555** | **0.1555** | | **0.1544** | **0.1544** | **0.0000** | **806.8259** | **806.8259** | **0.1126** | | **809.6401** |

### 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 | 4.6100e-003 | 0.1535 | 0.0595 | 7.4000e-004 | 0.0256 | 7.7000e-004 | 0.0264 | 7.3800e-003 | 7.4000e-004 | 8.1200e-003 | | 80.1130 | 80.1130 | 2.6800e-003 | 0.0115 | 83.6124 |
| Worker | 0.0640 | 0.0447 | 0.7248 | 1.9800e-003 | 0.2236 | 1.3500e-003 | 0.2249 | 0.0593 | 1.2400e-003 | 0.0605 | | 202.5226 | 202.5226 | 5.0400e-003 | 4.6200e-003 | 204.0242 |
| **Total** | **0.0687** | **0.1982** | **0.7842** | **2.7200e-003** | **0.2492** | **2.1200e-003** | **0.2513** | **0.0667** | **1.9800e-003** | **0.0687** | | **282.6356** | **282.6356** | **7.7200e-003** | **0.0161** | **287.6366** |

The Grove at Merced Project - Los Angeles-South Coast County, Summer

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

## 3.6 Architectural Coating - 2024

### 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 | 16.6467 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.4134 | 3.2270 | 5.2594 | 8.4600e-003 | | 0.1355 | 0.1355 | | 0.1344 | 0.1344 | | 806.8259 | 806.8259 | 0.1106 | | 809.5906 |
| **Total** | **17.0601** | **3.2270** | **5.2594** | **8.4600e-003** | | **0.1355** | **0.1355** | | **0.1344** | **0.1344** | | **806.8259** | **806.8259** | **0.1106** | | **809.5906** |

### 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 | 4.4600e-003 | 0.1539 | 0.0582 | 7.3000e-004 | 0.0256 | 7.8000e-004 | 0.0264 | 7.3800e-003 | 7.4000e-004 | 8.1200e-003 | | 78.9098 | 78.9098 | 2.6900e-003 | 0.0114 | 82.3616 |
| Worker | 0.0597 | 0.0399 | 0.6746 | 1.9200e-003 | 0.2236 | 1.2900e-003 | 0.2249 | 0.0593 | 1.1900e-003 | 0.0605 | | 198.3478 | 198.3478 | 4.5600e-003 | 4.2900e-003 | 199.7411 |
| **Total** | **0.0642** | **0.1937** | **0.7328** | **2.6500e-003** | **0.2492** | **2.0700e-003** | **0.2513** | **0.0667** | **1.9300e-003** | **0.0686** | | **277.2576** | **277.2576** | **7.2500e-003** | **0.0157** | **282.1027** |

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

## 3.6 Architectural Coating - 2024

### 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 | 16.6467 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.4134 | 3.2270 | 5.2594 | 8.4600e-003 | | 0.1355 | 0.1355 | | 0.1344 | 0.1344 | 0.0000 | 806.8259 | 806.8259 | 0.1106 | | 809.5906 |
| **Total** | **17.0601** | **3.2270** | **5.2594** | **8.4600e-003** | | **0.1355** | **0.1355** | | **0.1344** | **0.1344** | **0.0000** | **806.8259** | **806.8259** | **0.1106** | | **809.5906** |

### 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 | 4.4600e-003 | 0.1539 | 0.0582 | 7.3000e-004 | 0.0256 | 7.8000e-004 | 0.0264 | 7.3800e-003 | 7.4000e-004 | 8.1200e-003 | | 78.9098 | 78.9098 | 2.6900e-003 | 0.0114 | 82.3616 |
| Worker | 0.0597 | 0.0399 | 0.6746 | 1.9200e-003 | 0.2236 | 1.2900e-003 | 0.2249 | 0.0593 | 1.1900e-003 | 0.0605 | | 198.3478 | 198.3478 | 4.5600e-003 | 4.2900e-003 | 199.7411 |
| **Total** | **0.0642** | **0.1937** | **0.7328** | **2.6500e-003** | **0.2492** | **2.0700e-003** | **0.2513** | **0.0667** | **1.9300e-003** | **0.0686** | | **277.2576** | **277.2576** | **7.2500e-003** | **0.0157** | **282.1027** |

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

Increase Density

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 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 | 0.7561 | 0.7486 | 7.5131 | 0.0165 | 1.7239 | 0.0118 | 1.7357 | 0.4592 | 0.0110 | 0.4702 | | 1,713.6966 | 1,713.6966 | 0.1115 | 0.0685 | 1,736.8861 |
| Unmitigated | 0.7940 | 0.8064 | 8.1321 | 0.0181 | 1.8922 | 0.0129 | 1.9051 | 0.5040 | 0.0120 | 0.5160 | | 1,877.3608 | 1,877.3608 | 0.1197 | 0.0737 | 1,902.3263 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Condo/Townhouse | 263.02 | 263.02 | 263.02 | 898,766 | 818,799 |
| Enclosed Parking Structure | 0.00 | 0.00 | 0.00 | | |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Total | 263.02 | 263.02 | 263.02 | 898,766 | 818,799 |

## 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 |
| Condo/Townhouse | 14.70 | 5.90 | 8.70 | 40.20 | 19.20 | 40.60 | 86 | 11 | 3 |

**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 |
| Enclosed Parking Structure | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Other Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Condo/Townhouse | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |
| Enclosed Parking Structure | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |
| Other Asphalt Surfaces | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |
| Other Non-Asphalt Surfaces | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |
| Parking Lot | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

The Grove at Merced Project - Los Angeles-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 | | | | | |
| NaturalGas Mitigated | 0.0186 | 0.1592 | 0.0677 | 1.0200e-003 | | 0.0129 | 0.0129 | | 0.0129 | 0.0129 | | 203.1653 | 203.1653 | 3.8900e-003 | 3.7200e-003 | 204.3726 |
| NaturalGas Unmitigated | 0.0186 | 0.1592 | 0.0677 | 1.0200e-003 | | 0.0129 | 0.0129 | | 0.0129 | 0.0129 | | 203.1653 | 203.1653 | 3.8900e-003 | 3.7200e-003 | 204.3726 |

## 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 | | | | | |
| Condo/Townhouse | 1726.91 | 0.0186 | 0.1592 | 0.0677 | 1.0200e-003 | | 0.0129 | 0.0129 | | 0.0129 | 0.0129 | | 203.1653 | 203.1653 | 3.8900e-003 | 3.7200e-003 | 204.3726 |
| Enclosed Parking Structure | 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 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 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** | | **0.0186** | **0.1592** | **0.0677** | **1.0200e-003** | | **0.0129** | **0.0129** | | **0.0129** | **0.0129** | | **203.1653** | **203.1653** | **3.8900e-003** | **3.7200e-003** | **204.3726** |

## 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 | | | | | |
| Condo/Townhouse | 1.72691 | 0.0186 | 0.1592 | 0.0677 | 1.0200e-003 | | 0.0129 | 0.0129 | | 0.0129 | 0.0129 | | 203.1653 | 203.1653 | 3.8900e-003 | 3.7200e-003 | 204.3726 |
| Enclosed Parking Structure | 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 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 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** | | **0.0186** | **0.1592** | **0.0677** | **1.0200e-003** | | **0.0129** | **0.0129** | | **0.0129** | **0.0129** | | **203.1653** | **203.1653** | **3.8900e-003** | **3.7200e-003** | **204.3726** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

No Hearths Installed

The Grove at Merced Project - Los Angeles-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 | 1.7770 | 0.0372 | 3.2290 | 1.7000e-004 | | 0.0179 | 0.0179 | | 0.0179 | 0.0179 | 0.0000 | 5.8210 | 5.8210 | 5.6300e-003 | 0.0000 | 5.9618 |
| Unmitigated | 1.7770 | 0.0372 | 3.2290 | 1.7000e-004 | | 0.0179 | 0.0179 | | 0.0179 | 0.0179 | 0.0000 | 5.8210 | 5.8210 | 5.6300e-003 | 0.0000 | 5.9618 |

## 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 | 0.1368 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 1.5423 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.0979 | 0.0372 | 3.2290 | 1.7000e-004 | | 0.0179 | 0.0179 | | 0.0179 | 0.0179 | | 5.8210 | 5.8210 | 5.6300e-003 | | 5.9618 |
| **Total** | **1.7770** | **0.0372** | **3.2290** | **1.7000e-004** | | **0.0179** | **0.0179** | | **0.0179** | **0.0179** | **0.0000** | **5.8210** | **5.8210** | **5.6300e-003** | **0.0000** | **5.9618** |

**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 | 0.1368 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 1.5423 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.0979 | 0.0372 | 3.2290 | 1.7000e-004 | | 0.0179 | 0.0179 | | 0.0179 | 0.0179 | | 5.8210 | 5.8210 | 5.6300e-003 | | 5.9618 |
| **Total** | **1.7770** | **0.0372** | **3.2290** | **1.7000e-004** | | **0.0179** | **0.0179** | | **0.0179** | **0.0179** | **0.0000** | **5.8210** | **5.8210** | **5.6300e-003** | **0.0000** | **5.9618** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

**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

## 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

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

# The Grove at Merced Project

**Los Angeles-South Coast County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Enclosed Parking Structure | 78.00 | Space | 0.00 | 31,200.00 | 0 |
| Other Asphalt Surfaces | 24.73 | 1000sqft | 0.57 | 24,725.00 | 0 |
| Other Non-Asphalt Surfaces | 14.67 | 1000sqft | 0.34 | 14,666.00 | 0 |
| Parking Lot | 8.00 | Space | 0.04 | 1,561.00 | 0 |
| Condo/Townhouse | 39.00 | Dwelling Unit | 1.30 | 76,605.00 | 112 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 33 |
| **Climate Zone** | 9 | | | **Operational Year** | 2024 |
| **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 - Site Plan:
12 x 1,325 SF
15 x 1,375 SF
12 x 1,475 SF

Construction Phase - Approximate Schedule

Off-road Equipment - Infill Residential Equipment Inventory

Off-road Equipment - Infill Residential Equipment Inventory

Off-road Equipment - Infill Residential Equipment Inventory

The Grove at Merced Project - Los Angeles-South Coast County, Annual

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

Off-road Equipment - Infill Residential Equipment Inventory

Off-road Equipment - Infill Residential Equipment Inventory

Trips and VMT - Project Trips

Grading -

Architectural Coating -

Vehicle Trips - Focused Traffic Analysis: 263 daily trips

Woodstoves - Project Design: No Hearths

Area Coating -

Sequestration -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Fleet Mix -

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstructionPhase | NumDays | 3.00 | 36.00 |
| tblConstructionPhase | NumDays | 6.00 | 18.00 |
| tblConstructionPhase | NumDays | 10.00 | 30.00 |
| tblConstructionPhase | NumDays | 220.00 | 420.00 |
| tblConstructionPhase | NumDays | 10.00 | 30.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblConstructionPhase | NumDaysWeek | 5.00 | 6.00 |
| tblFireplaces | FireplaceDayYear | 25.00 | 0.00 |
| tblFireplaces | FireplaceHourDay | 3.00 | 0.00 |
| tblFireplaces | FireplaceWoodMass | 1,019.20 | 0.00 |
| tblFireplaces | NumberGas | 33.15 | 0.00 |

The Grove at Merced Project - Los Angeles-South Coast County, Annual

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

| | | | |
|---|---|---|---|
| tblFireplaces | NumberNoFireplace | 3.90 | 0.00 |
| tblFireplaces | NumberWood | 1.95 | 0.00 |
| tblGrading | MaterialExported | 0.00 | 200.00 |
| tblLandUse | LandUseSquareFeet | 24,730.00 | 24,725.00 |
| tblLandUse | LandUseSquareFeet | 14,670.00 | 14,666.00 |
| tblLandUse | LandUseSquareFeet | 3,200.00 | 1,561.00 |
| tblLandUse | LandUseSquareFeet | 39,000.00 | 76,605.00 |
| tblLandUse | LotAcreage | 0.70 | 0.00 |
| tblLandUse | LotAcreage | 0.07 | 0.04 |
| tblLandUse | LotAcreage | 2.44 | 1.30 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 1.00 | 2.00 |
| tblOffRoadEquipment | OffRoadEquipmentUnitAmount | 2.00 | 1.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblOffRoadEquipment | UsageHours | 8.00 | 6.00 |
| tblTripsAndVMT | HaulingTripNumber | 25.00 | 180.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 8.00 |
| tblTripsAndVMT | VendorTripNumber | 16.00 | 14.00 |
| tblTripsAndVMT | VendorTripNumber | 0.00 | 4.00 |
| tblTripsAndVMT | WorkerTripNumber | 8.00 | 30.00 |
| tblTripsAndVMT | WorkerTripNumber | 10.00 | 30.00 |
| tblTripsAndVMT | WorkerTripNumber | 15.00 | 30.00 |
| tblTripsAndVMT | WorkerTripNumber | 58.00 | 120.00 |

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

| | | | |
|---|---|---|---|
| tblTripsAndVMT | WorkerTripNumber | 12.00 | 20.00 |
| tblVehicleTrips | ST_TR | 8.14 | 6.74 |
| tblVehicleTrips | SU_TR | 6.28 | 6.74 |
| tblVehicleTrips | WD_TR | 7.32 | 6.74 |
| tblWoodstoves | NumberCatalytic | 1.95 | 0.00 |
| tblWoodstoves | NumberNoncatalytic | 1.95 | 0.00 |
| tblWoodstoves | WoodstoveDayYear | 25.00 | 0.00 |
| tblWoodstoves | WoodstoveWoodMass | 999.60 | 0.00 |

## 2.0 Emissions Summary

**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 | 0.0939 | 0.8075 | 1.1488 | 2.3500e-003 | 0.0936 | 0.0329 | 0.1265 | 0.0227 | 0.0309 | 0.0536 | 0.0000 | 210.0481 | 210.0481 | 0.0372 | 4.5900e-003 | 212.3459 |
| 2023 | 0.2863 | 1.4675 | 2.7256 | 5.4100e-003 | 0.2204 | 0.0552 | 0.2755 | 0.0589 | 0.0524 | 0.1113 | 0.0000 | 486.0647 | 486.0647 | 0.0707 | 0.0101 | 490.8280 |
| 2024 | 0.1641 | 0.1104 | 0.2062 | 4.0000e-004 | 0.0148 | 4.0200e-003 | 0.0189 | 3.9600e-003 | 3.8700e-003 | 7.8300e-003 | 0.0000 | 36.2628 | 36.2628 | 4.9600e-003 | 6.8000e-004 | 36.5906 |
| **Maximum** | **0.2863** | **1.4675** | **2.7256** | **5.4100e-003** | **0.2204** | **0.0552** | **0.2755** | **0.0589** | **0.0524** | **0.1113** | **0.0000** | **486.0647** | **486.0647** | **0.0707** | **0.0101** | **490.8280** |

### 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 | 0.0939 | 0.8075 | 1.1488 | 2.3500e-003 | 0.0848 | 0.0329 | 0.1178 | 0.0218 | 0.0309 | 0.0526 | 0.0000 | 210.0480 | 210.0480 | 0.0372 | 4.5900e-003 | 212.3457 |
| 2023 | 0.2863 | 1.4675 | 2.7256 | 5.4100e-003 | 0.2204 | 0.0552 | 0.2755 | 0.0589 | 0.0524 | 0.1113 | 0.0000 | 486.0644 | 486.0644 | 0.0707 | 0.0101 | 490.8277 |
| 2024 | 0.1641 | 0.1104 | 0.2062 | 4.0000e-004 | 0.0148 | 4.0200e-003 | 0.0189 | 3.9600e-003 | 3.8700e-003 | 7.8300e-003 | 0.0000 | 36.2628 | 36.2628 | 4.9600e-003 | 6.8000e-004 | 36.5906 |
| **Maximum** | **0.2863** | **1.4675** | **2.7256** | **5.4100e-003** | **0.2204** | **0.0552** | **0.2755** | **0.0589** | **0.0524** | **0.1113** | **0.0000** | **486.0644** | **486.0644** | **0.0707** | **0.0101** | **490.8277** |

The Grove at Merced Project - Los Angeles-South Coast County, Annual

## 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** | **2.66** | **0.00** | **2.08** | **1.10** | **0.00** | **0.55** | **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** | **6-13-2022** | **9-12-2022** | 0.3608 | 0.3608 |
| **2** | **9-13-2022** | **12-12-2022** | 0.4292 | 0.4292 |
| **3** | **12-13-2022** | **3-12-2023** | 0.4111 | 0.4111 |
| **4** | **3-13-2023** | **6-12-2023** | 0.4101 | 0.4101 |
| **5** | **6-13-2023** | **9-12-2023** | 0.4095 | 0.4095 |
| **6** | **9-13-2023** | **12-12-2023** | 0.4076 | 0.4076 |
| **7** | **12-13-2023** | **3-12-2024** | 0.4716 | 0.4716 |
| | | **Highest** | 0.4716 | 0.4716 |

**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 | 0.3187 | 4.6500e-003 | 0.4036 | 2.0000e-005 | | 2.2300e-003 | 2.2300e-003 | | 2.2300e-003 | 2.2300e-003 | 0.0000 | 0.6601 | 0.6601 | 6.4000e-004 | 0.0000 | 0.6761 |
| Energy | 3.4000e-003 | 0.0290 | 0.0124 | 1.9000e-004 | | 2.3500e-003 | 2.3500e-003 | | 2.3500e-003 | 2.3500e-003 | 0.0000 | 96.3087 | 96.3087 | 5.9300e-003 | 1.2600e-003 | 96.8319 |
| Mobile | 0.1397 | 0.1607 | 1.4599 | 3.1900e-003 | 0.3377 | 2.3400e-003 | 0.3400 | 0.0901 | 2.1700e-003 | 0.0923 | 0.0000 | 299.9626 | 299.9626 | 0.0202 | 0.0128 | 304.2788 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 3.6417 | 0.0000 | 3.6417 | 0.2152 | 0.0000 | 9.0221 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.8061 | 9.0241 | 9.8302 | 0.0836 | 2.0500e-003 | 12.5293 |
| **Total** | **0.4618** | **0.1944** | **1.8759** | **3.4000e-003** | **0.3377** | **6.9200e-003** | **0.3446** | **0.0901** | **6.7500e-003** | **0.0968** | **4.4478** | **405.9555** | **410.4033** | **0.3256** | **0.0161** | **423.3381** |

**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 | 0.3187 | 4.6500e-003 | 0.4036 | 2.0000e-005 | | 2.2300e-003 | 2.2300e-003 | | 2.2300e-003 | 2.2300e-003 | 0.0000 | 0.6601 | 0.6601 | 6.4000e-004 | 0.0000 | 0.6761 |
| Energy | 3.4000e-003 | 0.0290 | 0.0124 | 1.9000e-004 | | 2.3500e-003 | 2.3500e-003 | | 2.3500e-003 | 2.3500e-003 | 0.0000 | 96.3087 | 96.3087 | 5.9300e-003 | 1.2600e-003 | 96.8319 |
| Mobile | 0.1327 | 0.1491 | 1.3521 | 2.9100e-003 | 0.3076 | 2.1500e-003 | 0.3098 | 0.0821 | 2.0000e-003 | 0.0841 | 0.0000 | 273.8359 | 273.8359 | 0.0189 | 0.0119 | 277.8453 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 3.6417 | 0.0000 | 3.6417 | 0.2152 | 0.0000 | 9.0221 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.8061 | 9.0241 | 9.8302 | 0.0836 | 2.0500e-003 | 12.5293 |
| **Total** | **0.4548** | **0.1828** | **1.7681** | **3.1200e-003** | **0.3076** | **6.7300e-003** | **0.3144** | **0.0821** | **6.5800e-003** | **0.0887** | **4.4478** | **379.8287** | **384.2765** | **0.3242** | **0.0152** | **396.9046** |

| | ROG | NOx | 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** | **1.51** | **5.97** | **5.75** | **8.24** | **8.90** | **2.75** | **8.77** | **8.90** | **2.52** | **8.46** | **0.00** | **6.44** | **6.37** | **0.41** | **5.71** | **6.24** |

## 3.0 Construction Detail

### Construction Phase

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 6/13/2022 | 7/23/2022 | 6 | 36 | |
| 2 | Grading | Grading | 7/25/2022 | 8/13/2022 | 6 | 18 | |
| 3 | Paving | Paving | 8/15/2022 | 9/17/2022 | 6 | 30 | |

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

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4 | Building Construction | Building Construction | 9/19/2022 | 1/20/2024 | 6 | 420 | |
| 5 | Architectural Coating | Architectural Coating | 12/18/2023 | 1/20/2024 | 6 | 30 | |

**Acres of Grading (Site Preparation Phase): 13.5**

**Acres of Grading (Grading Phase): 13.5**

**Acres of Paving: 0.95**

**Residential Indoor: 155,125; Residential Outdoor: 51,708; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 4,329 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Crawler Tractors | 1 | 6.00 | 212 | 0.43 |
| Site Preparation | Excavators | 1 | 7.00 | 158 | 0.38 |
| Site Preparation | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Grading | Crawler Tractors | 1 | 6.00 | 212 | 0.43 |
| Grading | Excavators | 1 | 7.00 | 158 | 0.38 |
| Grading | Graders | 1 | 6.00 | 187 | 0.41 |
| Grading | Tractors/Loaders/Backhoes | 1 | 7.00 | 97 | 0.37 |
| Paving | Cement and Mortar Mixers | 2 | 6.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 6.00 | 130 | 0.42 |
| Paving | Paving Equipment | 1 | 6.00 | 132 | 0.36 |
| Paving | Rollers | 1 | 6.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 1 | 6.00 | 97 | 0.37 |
| Building Construction | Aerial Lifts | 2 | 7.00 | 63 | 0.31 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Rough Terrain Forklifts | 2 | 7.00 | 100 | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 2 | 6.00 | 97 | 0.37 |
| Architectural Coating | Aerial Lifts | 2 | 6.00 | 63 | 0.31 |
| Architectural Coating | Air Compressors | 2 | 6.00 | 78 | 0.48 |

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

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 3 | 30.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 4 | 30.00 | 0.00 | 180.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 30.00 | 8.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 7 | 120.00 | 14.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 4 | 20.00 | 4.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

## 3.2 Site Preparation - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive 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 | | | | | 7.1600e-003 | 0.0000 | 7.1600e-003 | 7.7000e-004 | 0.0000 | 7.7000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0124 | 0.1355 | 0.1178 | 2.4000e-004 | | 5.8300e-003 | 5.8300e-003 | | 5.3700e-003 | 5.3700e-003 | 0.0000 | 20.7443 | 20.7443 | 6.7100e-003 | 0.0000 | 20.9120 |
| **Total** | **0.0124** | **0.1355** | **0.1178** | **2.4000e-004** | **7.1600e-003** | **5.8300e-003** | **0.0130** | **7.7000e-004** | **5.3700e-003** | **6.1400e-003** | **0.0000** | **20.7443** | **20.7443** | **6.7100e-003** | **0.0000** | **20.9120** |

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

## 3.2 Site Preparation - 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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 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 | 1.8500e-003 | 1.5400e-003 | 0.0201 | 5.0000e-005 | 5.9200e-003 | 4.0000e-005 | 5.9600e-003 | 1.5700e-003 | 4.0000e-005 | 1.6100e-003 | 0.0000 | 4.8982 | 4.8982 | 1.4000e-004 | 1.3000e-004 | 4.9413 |
| **Total** | **1.8500e-003** | **1.5400e-003** | **0.0201** | **5.0000e-005** | **5.9200e-003** | **4.0000e-005** | **5.9600e-003** | **1.5700e-003** | **4.0000e-005** | **1.6100e-003** | **0.0000** | **4.8982** | **4.8982** | **1.4000e-004** | **1.3000e-004** | **4.9413** |

### 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 | | | | | 2.7900e-003 | 0.0000 | 2.7900e-003 | 3.0000e-004 | 0.0000 | 3.0000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0124 | 0.1355 | 0.1178 | 2.4000e-004 | | 5.8300e-003 | 5.8300e-003 | | 5.3700e-003 | 5.3700e-003 | 0.0000 | 20.7443 | 20.7443 | 6.7100e-003 | 0.0000 | 20.9120 |
| **Total** | **0.0124** | **0.1355** | **0.1178** | **2.4000e-004** | **2.7900e-003** | **5.8300e-003** | **8.6200e-003** | **3.0000e-004** | **5.3700e-003** | **5.6700e-003** | **0.0000** | **20.7443** | **20.7443** | **6.7100e-003** | **0.0000** | **20.9120** |

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

## 3.2 Site Preparation - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive 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 | 1.8500e-003 | 1.5400e-003 | 0.0201 | 5.0000e-005 | 5.9200e-003 | 4.0000e-005 | 5.9600e-003 | 1.5700e-003 | 4.0000e-005 | 1.6100e-003 | 0.0000 | 4.8982 | 4.8982 | 1.4000e-004 | 1.3000e-004 | 4.9413 |
| **Total** | **1.8500e-003** | **1.5400e-003** | **0.0201** | **5.0000e-005** | **5.9200e-003** | **4.0000e-005** | **5.9600e-003** | **1.5700e-003** | **4.0000e-005** | **1.6100e-003** | **0.0000** | **4.8982** | **4.8982** | **1.4000e-004** | **1.3000e-004** | **4.9413** |

## 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 | | | | | 7.1700e-003 | 0.0000 | 7.1700e-003 | 7.7000e-004 | 0.0000 | 7.7000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 9.0100e-003 | 0.1032 | 0.0705 | 1.6000e-004 | | 4.0500e-003 | 4.0500e-003 | | 3.7200e-003 | 3.7200e-003 | 0.0000 | 14.2990 | 14.2990 | 4.6200e-003 | 0.0000 | 14.4146 |
| **Total** | **9.0100e-003** | **0.1032** | **0.0705** | **1.6000e-004** | **7.1700e-003** | **4.0500e-003** | **0.0112** | **7.7000e-004** | **3.7200e-003** | **4.4900e-003** | **0.0000** | **14.2990** | **14.2990** | **4.6200e-003** | **0.0000** | **14.4146** |

**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 | 4.2000e-004 | 0.0159 | 3.5500e-003 | 6.0000e-005 | 1.5500e-003 | 1.1000e-004 | 1.6600e-003 | 4.3000e-004 | 1.1000e-004 | 5.3000e-004 | 0.0000 | 5.5590 | 5.5590 | 3.0000e-004 | 8.8000e-004 | 5.8292 |
| 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 | 9.3000e-004 | 7.7000e-004 | 0.0100 | 3.0000e-005 | 2.9600e-003 | 2.0000e-005 | 2.9800e-003 | 7.9000e-004 | 2.0000e-005 | 8.0000e-004 | 0.0000 | 2.4491 | 2.4491 | 7.0000e-005 | 7.0000e-005 | 2.4707 |
| **Total** | **1.3500e-003** | **0.0167** | **0.0136** | **9.0000e-005** | **4.5100e-003** | **1.3000e-004** | **4.6400e-003** | **1.2200e-003** | **1.3000e-004** | **1.3300e-003** | **0.0000** | **8.0081** | **8.0081** | **3.7000e-004** | **9.5000e-004** | **8.2999** |

### 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 | | | | | 2.8000e-003 | 0.0000 | 2.8000e-003 | 3.0000e-004 | 0.0000 | 3.0000e-004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 9.0100e-003 | 0.1032 | 0.0705 | 1.6000e-004 | | 4.0500e-003 | 4.0500e-003 | | 3.7200e-003 | 3.7200e-003 | 0.0000 | 14.2990 | 14.2990 | 4.6200e-003 | 0.0000 | 14.4146 |
| **Total** | **9.0100e-003** | **0.1032** | **0.0705** | **1.6000e-004** | **2.8000e-003** | **4.0500e-003** | **6.8500e-003** | **3.0000e-004** | **3.7200e-003** | **4.0200e-003** | **0.0000** | **14.2990** | **14.2990** | **4.6200e-003** | **0.0000** | **14.4146** |

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

## 3.3 Grading - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive 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 | 4.2000e-004 | 0.0159 | 3.5500e-003 | 6.0000e-005 | 1.5500e-003 | 1.1000e-004 | 1.6600e-003 | 4.3000e-004 | 1.1000e-004 | 5.3000e-004 | 0.0000 | 5.5590 | 5.5590 | 3.0000e-004 | 8.8000e-004 | 5.8292 |
| 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 | 9.3000e-004 | 7.7000e-004 | 0.0100 | 3.0000e-005 | 2.9600e-003 | 2.0000e-005 | 2.9800e-003 | 7.9000e-004 | 2.0000e-005 | 8.0000e-004 | 0.0000 | 2.4491 | 2.4491 | 7.0000e-005 | 7.0000e-005 | 2.4707 |
| **Total** | **1.3500e-003** | **0.0167** | **0.0136** | **9.0000e-005** | **4.5100e-003** | **1.3000e-004** | **4.6400e-003** | **1.2200e-003** | **1.3000e-004** | **1.3300e-003** | **0.0000** | **8.0081** | **8.0081** | **3.7000e-004** | **9.5000e-004** | **8.2999** |

## 3.4 Paving - 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 | 9.3800e-003 | 0.0897 | 0.1141 | 1.8000e-004 | | 4.5300e-003 | 4.5300e-003 | | 4.1900e-003 | 4.1900e-003 | 0.0000 | 15.3710 | 15.3710 | 4.7400e-003 | 0.0000 | 15.4896 |
| Paving | 8.0000e-004 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0102** | **0.0897** | **0.1141** | **1.8000e-004** | | **4.5300e-003** | **4.5300e-003** | | **4.1900e-003** | **4.1900e-003** | **0.0000** | **15.3710** | **15.3710** | **4.7400e-003** | **0.0000** | **15.4896** |

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

## 3.4 Paving - 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 | 2.3000e-004 | 6.1700e-003 | 2.0500e-003 | 2.0000e-005 | 7.6000e-004 | 6.0000e-005 | 8.1000e-004 | 2.2000e-004 | 5.0000e-005 | 2.7000e-004 | 0.0000 | 2.2915 | 2.2915 | 8.0000e-005 | 3.3000e-004 | 2.3919 |
| Worker | 1.5400e-003 | 1.2800e-003 | 0.0167 | 4.0000e-005 | 4.9300e-003 | 3.0000e-005 | 4.9600e-003 | 1.3100e-003 | 3.0000e-005 | 1.3400e-003 | 0.0000 | 4.0818 | 4.0818 | 1.2000e-004 | 1.1000e-004 | 4.1178 |
| **Total** | **1.7700e-003** | **7.4500e-003** | **0.0188** | **6.0000e-005** | **5.6900e-003** | **9.0000e-005** | **5.7700e-003** | **1.5300e-003** | **8.0000e-005** | **1.6100e-003** | **0.0000** | **6.3733** | **6.3733** | **2.0000e-004** | **4.4000e-004** | **6.5097** |

### 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 | 9.3800e-003 | 0.0897 | 0.1141 | 1.8000e-004 | | 4.5300e-003 | 4.5300e-003 | | 4.1900e-003 | 4.1900e-003 | 0.0000 | 15.3710 | 15.3710 | 4.7400e-003 | 0.0000 | 15.4896 |
| Paving | 8.0000e-004 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0102** | **0.0897** | **0.1141** | **1.8000e-004** | | **4.5300e-003** | **4.5300e-003** | | **4.1900e-003** | **4.1900e-003** | **0.0000** | **15.3710** | **15.3710** | **4.7400e-003** | **0.0000** | **15.4896** |

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

## 3.4 Paving - 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 | 2.3000e-004 | 6.1700e-003 | 2.0500e-003 | 2.0000e-005 | 7.6000e-004 | 6.0000e-005 | 8.1000e-004 | 2.2000e-004 | 5.0000e-005 | 2.7000e-004 | 0.0000 | 2.2915 | 2.2915 | 8.0000e-005 | 3.3000e-004 | 2.3919 |
| Worker | 1.5400e-003 | 1.2800e-003 | 0.0167 | 4.0000e-005 | 4.9300e-003 | 3.0000e-005 | 4.9600e-003 | 1.3100e-003 | 3.0000e-005 | 1.3400e-003 | 0.0000 | 4.0818 | 4.0818 | 1.2000e-004 | 1.1000e-004 | 4.1178 |
| **Total** | **1.7700e-003** | **7.4500e-003** | **0.0188** | **6.0000e-005** | **5.6900e-003** | **9.0000e-005** | **5.7700e-003** | **1.5300e-003** | **8.0000e-005** | **1.6100e-003** | **0.0000** | **6.3733** | **6.3733** | **2.0000e-004** | **4.4000e-004** | **6.5097** |

## 3.5 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 | 0.0376 | 0.4056 | 0.5828 | 9.1000e-004 | | 0.0176 | 0.0176 | | 0.0167 | 0.0167 | 0.0000 | 79.3421 | 79.3421 | 0.0186 | 0.0000 | 79.8082 |
| **Total** | **0.0376** | **0.4056** | **0.5828** | **9.1000e-004** | | **0.0176** | **0.0176** | | **0.0167** | **0.0167** | **0.0000** | **79.3421** | **79.3421** | **0.0186** | **0.0000** | **79.8082** |

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

## 3.5 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 | 1.2300e-003 | 0.0324 | 0.0107 | 1.2000e-004 | 3.9700e-003 | 2.9000e-004 | 4.2600e-003 | 1.1500e-003 | 2.8000e-004 | 1.4300e-003 | 0.0000 | 12.0304 | 12.0304 | 4.0000e-004 | 1.7400e-003 | 12.5575 |
| Worker | 0.0185 | 0.0154 | 0.2005 | 5.3000e-004 | 0.0592 | 3.9000e-004 | 0.0596 | 0.0157 | 3.6000e-004 | 0.0161 | 0.0000 | 48.9818 | 48.9818 | 1.4000e-003 | 1.3300e-003 | 49.4131 |
| **Total** | **0.0197** | **0.0478** | **0.2112** | **6.5000e-004** | **0.0631** | **6.8000e-004** | **0.0638** | **0.0169** | **6.4000e-004** | **0.0175** | **0.0000** | **61.0121** | **61.0121** | **1.8000e-003** | **3.0700e-003** | **61.9706** |

### 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 | 0.0376 | 0.4056 | 0.5828 | 9.1000e-004 | | 0.0176 | 0.0176 | | 0.0167 | 0.0167 | 0.0000 | 79.3420 | 79.3420 | 0.0186 | 0.0000 | 79.8081 |
| **Total** | **0.0376** | **0.4056** | **0.5828** | **9.1000e-004** | | **0.0176** | **0.0176** | | **0.0167** | **0.0167** | **0.0000** | **79.3420** | **79.3420** | **0.0186** | **0.0000** | **79.8081** |

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

## 3.5 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 | 1.2300e-003 | 0.0324 | 0.0107 | 1.2000e-004 | 3.9700e-003 | 2.9000e-004 | 4.2600e-003 | 1.1500e-003 | 2.8000e-004 | 1.4300e-003 | 0.0000 | 12.0304 | 12.0304 | 4.0000e-004 | 1.7400e-003 | 12.5575 |
| Worker | 0.0185 | 0.0154 | 0.2005 | 5.3000e-004 | 0.0592 | 3.9000e-004 | 0.0596 | 0.0157 | 3.6000e-004 | 0.0161 | 0.0000 | 48.9818 | 48.9818 | 1.4000e-003 | 1.3300e-003 | 49.4131 |
| **Total** | **0.0197** | **0.0478** | **0.2112** | **6.5000e-004** | **0.0631** | **6.8000e-004** | **0.0638** | **0.0169** | **6.4000e-004** | **0.0175** | **0.0000** | **61.0121** | **61.0121** | **1.8000e-003** | **3.0700e-003** | **61.9706** |

## 3.5 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 | 0.1215 | 1.3106 | 2.0171 | 3.1600e-003 | | 0.0525 | 0.0525 | | 0.0499 | 0.0499 | 0.0000 | 275.1363 | 275.1363 | 0.0644 | 0.0000 | 276.7450 |
| **Total** | **0.1215** | **1.3106** | **2.0171** | **3.1600e-003** | | **0.0525** | **0.0525** | | **0.0499** | **0.0499** | **0.0000** | **275.1363** | **275.1363** | **0.0644** | **0.0000** | **276.7450** |

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

## 3.5 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 | 2.4700e-003 | 0.0880 | 0.0330 | 4.1000e-004 | 0.0138 | 4.2000e-004 | 0.0142 | 3.9700e-003 | 4.0000e-004 | 4.3800e-003 | 0.0000 | 39.7100 | 39.7100 | 1.3300e-003 | 5.7100e-003 | 41.4462 |
| Worker | 0.0594 | 0.0472 | 0.6395 | 1.7800e-003 | 0.2051 | 1.2600e-003 | 0.2064 | 0.0545 | 1.1600e-003 | 0.0557 | 0.0000 | 165.3306 | 165.3306 | 4.3400e-003 | 4.2500e-003 | 166.7058 |
| **Total** | **0.0619** | **0.1352** | **0.6725** | **2.1900e-003** | **0.2189** | **1.6800e-003** | **0.2206** | **0.0585** | **1.5600e-003** | **0.0600** | **0.0000** | **205.0406** | **205.0406** | **5.6700e-003** | **9.9600e-003** | **208.1520** |

### 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 | 0.1215 | 1.3106 | 2.0171 | 3.1600e-003 | | 0.0525 | 0.0525 | | 0.0499 | 0.0499 | 0.0000 | 275.1360 | 275.1360 | 0.0644 | 0.0000 | 276.7446 |
| **Total** | **0.1215** | **1.3106** | **2.0171** | **3.1600e-003** | | **0.0525** | **0.0525** | | **0.0499** | **0.0499** | **0.0000** | **275.1360** | **275.1360** | **0.0644** | **0.0000** | **276.7446** |

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

## 3.5 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 | 2.4700e-003 | 0.0880 | 0.0330 | 4.1000e-004 | 0.0138 | 4.2000e-004 | 0.0142 | 3.9700e-003 | 4.0000e-004 | 4.3800e-003 | 0.0000 | 39.7100 | 39.7100 | 1.3300e-003 | 5.7100e-003 | 41.4462 |
| Worker | 0.0594 | 0.0472 | 0.6395 | 1.7800e-003 | 0.2051 | 1.2600e-003 | 0.2064 | 0.0545 | 1.1600e-003 | 0.0557 | 0.0000 | 165.3306 | 165.3306 | 4.3400e-003 | 4.2500e-003 | 166.7058 |
| **Total** | **0.0619** | **0.1352** | **0.6725** | **2.1900e-003** | **0.2189** | **1.6800e-003** | **0.2206** | **0.0585** | **1.5600e-003** | **0.0600** | **0.0000** | **205.0406** | **205.0406** | **5.6700e-003** | **9.9600e-003** | **208.1520** |

## 3.5 Building Construction - 2024

**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 | 6.6700e-003 | 0.0720 | 0.1164 | 1.8000e-004 | | 2.6900e-003 | 2.6900e-003 | | 2.5500e-003 | 2.5500e-003 | 0.0000 | 15.8746 | 15.8746 | 3.6900e-003 | 0.0000 | 15.9670 |
| **Total** | **6.6700e-003** | **0.0720** | **0.1164** | **1.8000e-004** | | **2.6900e-003** | **2.6900e-003** | | **2.5500e-003** | **2.5500e-003** | **0.0000** | **15.8746** | **15.8746** | **3.6900e-003** | **0.0000** | **15.9670** |

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

## 3.5 Building Construction - 2024

### 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 | 1.4000e-004 | 5.0900e-003 | 1.8600e-003 | 2.0000e-005 | 7.9000e-004 | 2.0000e-005 | 8.2000e-004 | 2.3000e-004 | 2.0000e-005 | 2.5000e-004 | 0.0000 | 2.2566 | 2.2566 | 8.0000e-005 | 3.3000e-004 | 2.3554 |
| Worker | 3.2000e-003 | 2.4300e-003 | 0.0344 | 1.0000e-004 | 0.0118 | 7.0000e-005 | 0.0119 | 3.1400e-003 | 6.0000e-005 | 3.2100e-003 | 0.0000 | 9.3423 | 9.3423 | 2.3000e-004 | 2.3000e-004 | 9.4159 |
| **Total** | **3.3400e-003** | **7.5200e-003** | **0.0362** | **1.2000e-004** | **0.0126** | **9.0000e-005** | **0.0127** | **3.3700e-003** | **8.0000e-005** | **3.4600e-003** | **0.0000** | **11.5989** | **11.5989** | **3.1000e-004** | **5.6000e-004** | **11.7713** |

### 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 | 6.6700e-003 | 0.0720 | 0.1164 | 1.8000e-004 | | 2.6900e-003 | 2.6900e-003 | | 2.5500e-003 | 2.5500e-003 | 0.0000 | 15.8746 | 15.8746 | 3.6900e-003 | 0.0000 | 15.9670 |
| **Total** | **6.6700e-003** | **0.0720** | **0.1164** | **1.8000e-004** | | **2.6900e-003** | **2.6900e-003** | | **2.5500e-003** | **2.5500e-003** | **0.0000** | **15.8746** | **15.8746** | **3.6900e-003** | **0.0000** | **15.9670** |

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

## 3.5 Building Construction - 2024

**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 | 1.4000e-004 | 5.0900e-003 | 1.8600e-003 | 2.0000e-005 | 7.9000e-004 | 2.0000e-005 | 8.2000e-004 | 2.3000e-004 | 2.0000e-005 | 2.5000e-004 | 0.0000 | 2.2566 | 2.2566 | 8.0000e-005 | 3.3000e-004 | 2.3554 |
| Worker | 3.2000e-003 | 2.4300e-003 | 0.0344 | 1.0000e-004 | 0.0118 | 7.0000e-005 | 0.0119 | 3.1400e-003 | 6.0000e-005 | 3.2100e-003 | 0.0000 | 9.3423 | 9.3423 | 2.3000e-004 | 2.3000e-004 | 9.4159 |
| **Total** | **3.3400e-003** | **7.5200e-003** | **0.0362** | **1.2000e-004** | **0.0126** | **9.0000e-005** | **0.0127** | **3.3700e-003** | **8.0000e-005** | **3.4600e-003** | **0.0000** | **11.5989** | **11.5989** | **3.1000e-004** | **5.6000e-004** | **11.7713** |

## 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 | 0.0999 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 2.6100e-003 | 0.0204 | 0.0316 | 5.0000e-005 | | 9.3000e-004 | 9.3000e-004 | | 9.3000e-004 | 9.3000e-004 | 0.0000 | 4.3916 | 4.3916 | 6.1000e-004 | 0.0000 | 4.4070 |
| **Total** | **0.1025** | **0.0204** | **0.0316** | **5.0000e-005** | | **9.3000e-004** | **9.3000e-004** | | **9.3000e-004** | **9.3000e-004** | **0.0000** | **4.3916** | **4.3916** | **6.1000e-004** | **0.0000** | **4.4070** |

**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 | 3.0000e-005 | 9.7000e-004 | 3.6000e-004 | 0.0000 | 1.5000e-004 | 0.0000 | 1.6000e-004 | 4.0000e-005 | 0.0000 | 5.0000e-005 | 0.0000 | 0.4364 | 0.4364 | 1.0000e-005 | 6.0000e-005 | 0.4555 |
| Worker | 3.8000e-004 | 3.0000e-004 | 4.1000e-003 | 1.0000e-005 | 1.3100e-003 | 1.0000e-005 | 1.3200e-003 | 3.5000e-004 | 1.0000e-005 | 3.6000e-004 | 0.0000 | 1.0598 | 1.0598 | 3.0000e-005 | 3.0000e-005 | 1.0686 |
| **Total** | **4.1000e-004** | **1.2700e-003** | **4.4600e-003** | **1.0000e-005** | **1.4600e-003** | **1.0000e-005** | **1.4800e-003** | **3.9000e-004** | **1.0000e-005** | **4.1000e-004** | **0.0000** | **1.4962** | **1.4962** | **4.0000e-005** | **9.0000e-005** | **1.5241** |

### 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 | 0.0999 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 2.6100e-003 | 0.0204 | 0.0316 | 5.0000e-005 | | 9.3000e-004 | 9.3000e-004 | | 9.3000e-004 | 9.3000e-004 | 0.0000 | 4.3916 | 4.3916 | 6.1000e-004 | 0.0000 | 4.4070 |
| **Total** | **0.1025** | **0.0204** | **0.0316** | **5.0000e-005** | | **9.3000e-004** | **9.3000e-004** | | **9.3000e-004** | **9.3000e-004** | **0.0000** | **4.3916** | **4.3916** | **6.1000e-004** | **0.0000** | **4.4070** |

**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 | 3.0000e-005 | 9.7000e-004 | 3.6000e-004 | 0.0000 | 1.5000e-004 | 0.0000 | 1.6000e-004 | 4.0000e-005 | 0.0000 | 5.0000e-005 | 0.0000 | 0.4364 | 0.4364 | 1.0000e-005 | 6.0000e-005 | 0.4555 |
| Worker | 3.8000e-004 | 3.0000e-004 | 4.1000e-003 | 1.0000e-005 | 1.3100e-003 | 1.0000e-005 | 1.3200e-003 | 3.5000e-004 | 1.0000e-005 | 3.6000e-004 | 0.0000 | 1.0598 | 1.0598 | 3.0000e-005 | 3.0000e-005 | 1.0686 |
| **Total** | **4.1000e-004** | **1.2700e-003** | **4.4600e-003** | **1.0000e-005** | **1.4600e-003** | **1.0000e-005** | **1.4800e-003** | **3.9000e-004** | **1.0000e-005** | **4.1000e-004** | **0.0000** | **1.4962** | **1.4962** | **4.0000e-005** | **9.0000e-005** | **1.5241** |

## 3.6 Architectural Coating - 2024

**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 | 0.1498 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 3.7200e-003 | 0.0290 | 0.0473 | 8.0000e-005 | | 1.2200e-003 | 1.2200e-003 | | 1.2100e-003 | 1.2100e-003 | 0.0000 | 6.5875 | 6.5875 | 9.0000e-004 | 0.0000 | 6.6100 |
| **Total** | **0.1535** | **0.0290** | **0.0473** | **8.0000e-005** | | **1.2200e-003** | **1.2200e-003** | | **1.2100e-003** | **1.2100e-003** | **0.0000** | **6.5875** | **6.5875** | **9.0000e-004** | **0.0000** | **6.6100** |

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

## 3.6 Architectural Coating - 2024

### 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 | 4.0000e-005 | 1.4500e-003 | 5.3000e-004 | 1.0000e-005 | 2.3000e-004 | 1.0000e-005 | 2.3000e-004 | 7.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 0.6447 | 0.6447 | 2.0000e-005 | 9.0000e-005 | 0.6730 |
| Worker | 5.3000e-004 | 4.1000e-004 | 5.7300e-003 | 2.0000e-005 | 1.9700e-003 | 1.0000e-005 | 1.9800e-003 | 5.2000e-004 | 1.0000e-005 | 5.3000e-004 | 0.0000 | 1.5571 | 1.5571 | 4.0000e-005 | 4.0000e-005 | 1.5693 |
| **Total** | **5.7000e-004** | **1.8600e-003** | **6.2600e-003** | **3.0000e-005** | **2.2000e-003** | **2.0000e-005** | **2.2100e-003** | **5.9000e-004** | **2.0000e-005** | **6.0000e-004** | **0.0000** | **2.2018** | **2.2018** | **6.0000e-005** | **1.3000e-004** | **2.2423** |

### 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 | 0.1498 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 3.7200e-003 | 0.0290 | 0.0473 | 8.0000e-005 | | 1.2200e-003 | 1.2200e-003 | | 1.2100e-003 | 1.2100e-003 | 0.0000 | 6.5875 | 6.5875 | 9.0000e-004 | 0.0000 | 6.6100 |
| **Total** | **0.1535** | **0.0290** | **0.0473** | **8.0000e-005** | | **1.2200e-003** | **1.2200e-003** | | **1.2100e-003** | **1.2100e-003** | **0.0000** | **6.5875** | **6.5875** | **9.0000e-004** | **0.0000** | **6.6100** |

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

### 3.6 Architectural Coating - 2024

**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 | 4.0000e-005 | 1.4500e-003 | 5.3000e-004 | 1.0000e-005 | 2.3000e-004 | 1.0000e-005 | 2.3000e-004 | 7.0000e-005 | 1.0000e-005 | 7.0000e-005 | 0.0000 | 0.6447 | 0.6447 | 2.0000e-005 | 9.0000e-005 | 0.6730 |
| Worker | 5.3000e-004 | 4.1000e-004 | 5.7300e-003 | 2.0000e-005 | 1.9700e-003 | 1.0000e-005 | 1.9800e-003 | 5.2000e-004 | 1.0000e-005 | 5.3000e-004 | 0.0000 | 1.5571 | 1.5571 | 4.0000e-005 | 4.0000e-005 | 1.5693 |
| **Total** | **5.7000e-004** | **1.8600e-003** | **6.2600e-003** | **3.0000e-005** | **2.2000e-003** | **2.0000e-005** | **2.2100e-003** | **5.9000e-004** | **2.0000e-005** | **6.0000e-004** | **0.0000** | **2.2018** | **2.2018** | **6.0000e-005** | **1.3000e-004** | **2.2423** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

Increase Density

**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 | 0.1327 | 0.1491 | 1.3521 | 2.9100e-003 | 0.3076 | 2.1500e-003 | 0.3098 | 0.0821 | 2.0000e-003 | 0.0841 | 0.0000 | 273.8359 | 273.8359 | 0.0189 | 0.0119 | 277.8453 |
| Unmitigated | 0.1397 | 0.1607 | 1.4599 | 3.1900e-003 | 0.3377 | 2.3400e-003 | 0.3400 | 0.0901 | 2.1700e-003 | 0.0923 | 0.0000 | 299.9626 | 299.9626 | 0.0202 | 0.0128 | 304.2788 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Condo/Townhouse | 263.02 | 263.02 | 263.02 | 898,766 | 818,799 |
| Enclosed Parking Structure | 0.00 | 0.00 | 0.00 | | |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Total | 263.02 | 263.02 | 263.02 | 898,766 | 818,799 |

## 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 |
| Condo/Townhouse | 14.70 | 5.90 | 8.70 | 40.20 | 19.20 | 40.60 | 86 | 11 | 3 |
| Enclosed Parking Structure | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Other Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| 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

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

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Condo/Townhouse | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |
| Enclosed Parking Structure | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |
| Other Asphalt Surfaces | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |
| Other Non-Asphalt Surfaces | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |
| Parking Lot | 0.542464 | 0.063735 | 0.188241 | 0.126899 | 0.023249 | 0.006239 | 0.010717 | 0.008079 | 0.000923 | 0.000604 | 0.024795 | 0.000702 | 0.003352 |

## 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 | 62.6724 | 62.6724 | 5.2900e-003 | 6.4000e-004 | 62.9957 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 62.6724 | 62.6724 | 5.2900e-003 | 6.4000e-004 | 62.9957 |
| NaturalGas Mitigated | 3.4000e-003 | 0.0290 | 0.0124 | 1.9000e-004 | | 2.3500e-003 | 2.3500e-003 | | 2.3500e-003 | 2.3500e-003 | 0.0000 | 33.6363 | 33.6363 | 6.4000e-004 | 6.2000e-004 | 33.8362 |
| NaturalGas Unmitigated | 3.4000e-003 | 0.0290 | 0.0124 | 1.9000e-004 | | 2.3500e-003 | 2.3500e-003 | | 2.3500e-003 | 2.3500e-003 | 0.0000 | 33.6363 | 33.6363 | 6.4000e-004 | 6.2000e-004 | 33.8362 |

The Grove at Merced Project - Los Angeles-South Coast County, Annual

**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 | | | | | |
| Condo/Townhouse | 630320 | 3.4000e-003 | 0.0290 | 0.0124 | 1.9000e-004 | | 2.3500e-003 | 2.3500e-003 | | 2.3500e-003 | 2.3500e-003 | 0.0000 | 33.6363 | 33.6363 | 6.4000e-004 | 6.2000e-004 | 33.8362 |
| Enclosed Parking Structure | 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 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 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** | | **3.4000e-003** | **0.0290** | **0.0124** | **1.9000e-004** | | **2.3500e-003** | **2.3500e-003** | | **2.3500e-003** | **2.3500e-003** | **0.0000** | **33.6363** | **33.6363** | **6.4000e-004** | **6.2000e-004** | **33.8362** |

**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 | | | | | |
| Condo/Townhouse | 630320 | 3.4000e-003 | 0.0290 | 0.0124 | 1.9000e-004 | | 2.3500e-003 | 2.3500e-003 | | 2.3500e-003 | 2.3500e-003 | 0.0000 | 33.6363 | 33.6363 | 6.4000e-004 | 6.2000e-004 | 33.8362 |
| Enclosed Parking Structure | 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 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 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** | | **3.4000e-003** | **0.0290** | **0.0124** | **1.9000e-004** | | **2.3500e-003** | **2.3500e-003** | | **2.3500e-003** | **2.3500e-003** | **0.0000** | **33.6363** | **33.6363** | **6.4000e-004** | **6.2000e-004** | **33.8362** |

**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 | | | |
| Condo/Townhouse | 189045 | 33.5263 | 2.8300e-003 | 3.4000e-004 | 33.6993 |
| Enclosed Parking Structure | 163800 | 29.0492 | 2.4500e-003 | 3.0000e-004 | 29.1991 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 546.35 | 0.0969 | 1.0000e-005 | 0.0000 | 0.0974 |
| **Total** | | **62.6724** | **5.2900e-003** | **6.4000e-004** | **62.9957** |

## 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Condo/Townhouse | 189045 | 33.5263 | 2.8300e-003 | 3.4000e-004 | 33.6993 |
| Enclosed Parking Structure | 163800 | 29.0492 | 2.4500e-003 | 3.0000e-004 | 29.1991 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 546.35 | 0.0969 | 1.0000e-005 | 0.0000 | 0.0974 |
| **Total** | | **62.6724** | **5.2900e-003** | **6.4000e-004** | **62.9957** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

No Hearths Installed

**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 | 0.3187 | 4.6500e-003 | 0.4036 | 2.0000e-005 | | 2.2300e-003 | 2.2300e-003 | | 2.2300e-003 | 2.2300e-003 | 0.0000 | 0.6601 | 0.6601 | 6.4000e-004 | 0.0000 | 0.6761 |
| Unmitigated | 0.3187 | 4.6500e-003 | 0.4036 | 2.0000e-005 | | 2.2300e-003 | 2.2300e-003 | | 2.2300e-003 | 2.2300e-003 | 0.0000 | 0.6601 | 0.6601 | 6.4000e-004 | 0.0000 | 0.6761 |

## 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 | 0.0250 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.2815 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.0122 | 4.6500e-003 | 0.4036 | 2.0000e-005 | | 2.2300e-003 | 2.2300e-003 | | 2.2300e-003 | 2.2300e-003 | 0.0000 | 0.6601 | 0.6601 | 6.4000e-004 | 0.0000 | 0.6761 |
| **Total** | **0.3187** | **4.6500e-003** | **0.4036** | **2.0000e-005** | | **2.2300e-003** | **2.2300e-003** | | **2.2300e-003** | **2.2300e-003** | **0.0000** | **0.6601** | **0.6601** | **6.4000e-004** | **0.0000** | **0.6761** |

**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 | 0.0250 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.2815 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Hearth | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 0.0122 | 4.6500e-003 | 0.4036 | 2.0000e-005 | | 2.2300e-003 | 2.2300e-003 | | 2.2300e-003 | 2.2300e-003 | 0.0000 | 0.6601 | 0.6601 | 6.4000e-004 | 0.0000 | 0.6761 |
| **Total** | **0.3187** | **4.6500e-003** | **0.4036** | **2.0000e-005** | | **2.2300e-003** | **2.2300e-003** | | **2.2300e-003** | **2.2300e-003** | **0.0000** | **0.6601** | **0.6601** | **6.4000e-004** | **0.0000** | **0.6761** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

**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 | 9.8302 | 0.0836 | 2.0500e-003 | 12.5293 |
| Unmitigated | 9.8302 | 0.0836 | 2.0500e-003 | 12.5293 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Condo/Townhouse | 2.54101 / 1.60194 | 9.8302 | 0.0836 | 2.0500e-003 | 12.5293 |
| Enclosed Parking Structure | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Asphalt Surfaces | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 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** | | **9.8302** | **0.0836** | **2.0500e-003** | **12.5293** |

## 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Condo/Townhouse | 2.54101 / 1.60194 | 9.8302 | 0.0836 | 2.0500e-003 | 12.5293 |
| Enclosed Parking Structure | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Asphalt Surfaces | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 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** | | **9.8302** | **0.0836** | **2.0500e-003** | **12.5293** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

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

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 3.6417 | 0.2152 | 0.0000 | 9.0221 |
| Unmitigated | 3.6417 | 0.2152 | 0.0000 | 9.0221 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Condo/Townhouse | 17.94 | 3.6417 | 0.2152 | 0.0000 | 9.0221 |
| Enclosed Parking Structure | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 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** | | **3.6417** | **0.2152** | **0.0000** | **9.0221** |

**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 | | | |
| Condo/Townhouse | 17.94 | 3.6417 | 0.2152 | 0.0000 | 9.0221 |
| Enclosed Parking Structure | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 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** | | **3.6417** | **0.2152** | **0.0000** | **9.0221** |

## 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 |
|---|---|---|---|---|---|

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

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# Appendix B

Noise Calculations

# Noise Monitoring Site 1 (1221 Van Horn Ave.)

# Session Report

**12/14/2021**

## Information Panel

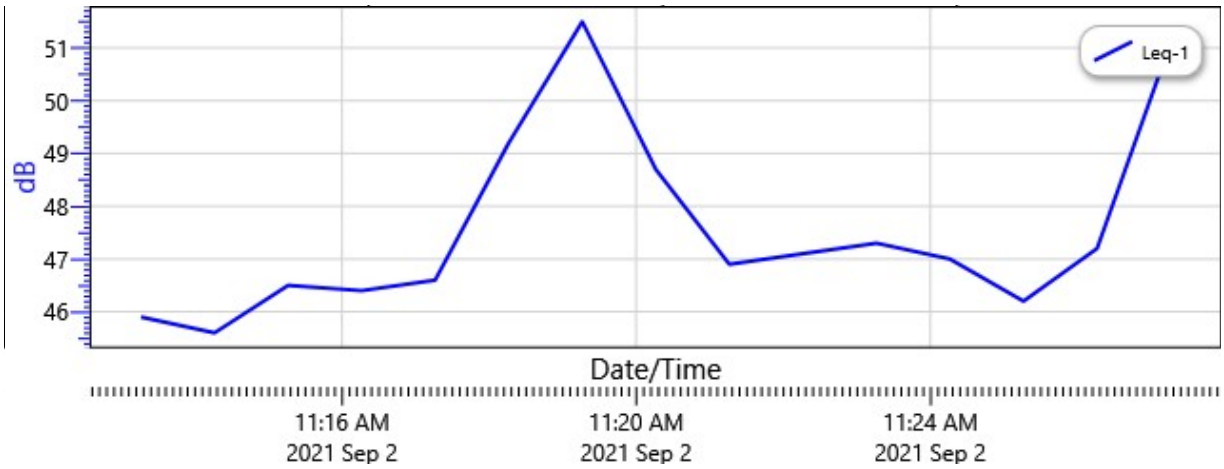
| | |
|---|---|
| Name | RC Homes Project_Site 1 |
| Start Time | 9/2/2021 11:12:16 AM |
| Stop Time | 9/2/2021 11:27:16 AM |
| Device Name | BGS100001 |
| Model Type | SoundPro DL |
| Device Firmware Rev | R.13H |
| Comments | |
| Run Time | 00:15:00 |

## Summary Data Panel

| Description | Meter | Value | Description | Meter | Value |
|---|---|---|---|---|---|
| Leq | 1 | 47.9 dB | Lmax | 1 | 60.5 dB |
| Lmin | 1 | 44.9 dB | | | |
| Exchange Rate | 1 | 3 dB | Weighting | 1 | A |
| Response | 1 | SLOW | Bandwidth | 1 | OFF |
| Exchange Rate | 2 | 3 dB | Weighting | 2 | A |
| Response | 2 | SLOW | | | |

## Logged Data Chart

S242: Logged Data Chart



## Logged Data Table

| Date/Time | Leq-1 |
|---|---|
| 9/2/2021 11:13:16 AM | 45.9 |
| 11:14:16 AM | 45.6 |
| 11:15:16 AM | 46.5 |
| 11:16:16 AM | 46.4 |
| 11:17:16 AM | 46.6 |
| 11:18:16 AM | 49.2 |
| 11:19:16 AM | 51.5 |
| 11:20:16 AM | 48.7 |
| 11:21:16 AM | 46.9 |
| 11:22:16 AM | 47.1 |
| 11:23:16 AM | 47.3 |
| 11:24:16 AM | 47 |
| 11:25:16 AM | 46.2 |
| 11:26:16 AM | 47.2 |
| 11:27:16 AM | 51.1 |

# Noise Measurement Report Form

Project: RC Homes / 1912 Merced. Contract No (s): N/A

Date: 9/2/2021 Day of Week: Thursday Time: 11:14 am

Monitoring Site Number: 1 Monitoring Site Address: 1221 Van Horn Ave.

Measurement Taken By: Billy

Approximate Wind Speed: 2 mph [km/hr] Approximate Wind Direction: From the SW

Approximate distance of Sound Level Meter from Receptor Location: 25 ft.

Approximate distance of Sound Level Meter from Project Site: 50 ft.

Receptor Land Use (Check One) ☑ Residential / Institutional ☐ Commercial / Recreational

Sound Level Meter: Make and Model: _____ Serial Number: _____

Meter Setting ☑ A-Weighted Sound Level (SLOW) ☐ C-Weighted Sound Level (FAST) for Impacts

Duration of Measurement: 15m

Check the measurement purpose:

☑ Baseline condition ☐ Ongoing construction ☐ Major change ☐ Complaint response

**Measurement Results:**

| Measurement Type | Measured Level | Noise Criteria Threshold | Exceedance |
|---|---|---|---|
| Calibration | 114 dba | n/a | n/a |
| $L_{eq}$ | 48.0 dba | | |
| $L_{max}$ | | | |
| $L_{dn}$ | | | |
| CNEL | | | |

Field Notes:

1. minimal traffic on through street (1 car during noise measurement)
2. Cul de Sac.
3. 
4. File 242

# Noise Monitoring Site 2 (1220 Sunkist Ave.)

# Session Report

**12/14/2021**

## Information Panel

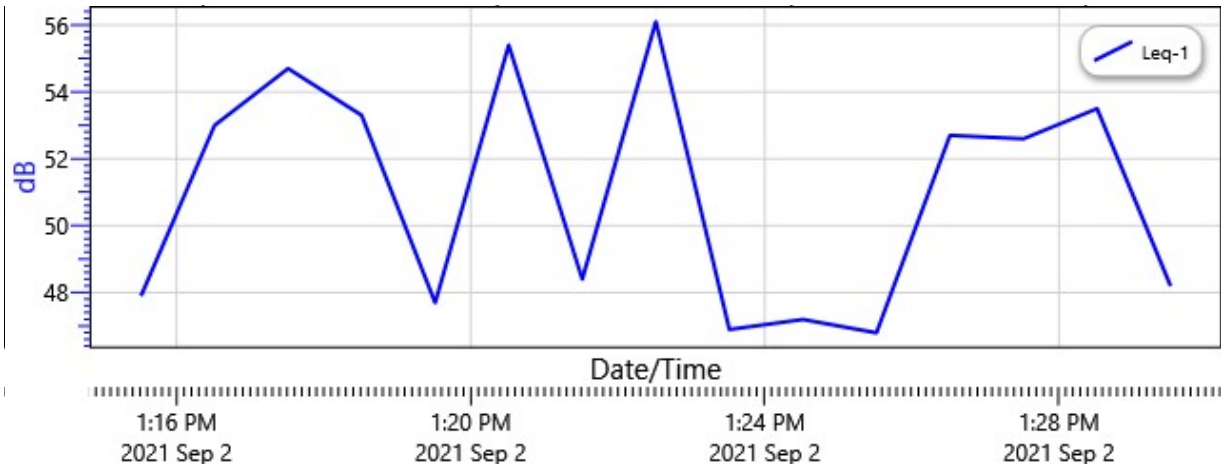
| | |
|---|---|
| Name | RC Homes Project_Site 2 |
| Start Time | 9/2/2021 1:14:31 PM |
| Stop Time | 9/2/2021 1:29:31 PM |
| Device Name | BGS100001 |
| Model Type | SoundPro DL |
| Device Firmware Rev | R.13H |
| Comments | |
| Run Time | 00:15:00 |

## Summary Data Panel

| Description | Meter | Value | Description | Meter | Value |
|---|---|---|---|---|---|
| Leq | 1 | 52.1 dB | Lmax | 1 | 68.5 dB |
| Lmin | 1 | 46.1 dB | | | |
| Exchange Rate | 1 | 3 dB | Weighting | 1 | A |
| Response | 1 | SLOW | Bandwidth | 1 | OFF |
| Exchange Rate | 2 | 3 dB | Weighting | 2 | A |
| Response | 2 | SLOW | | | |

## Logged Data Chart

S247: Logged Data Chart



## Logged Data Table

| Date/Time | Leq-1 |
|---|---|
| 9/2/2021 1:15:31 PM | 47.9 |
| 1:16:31 PM | 53 |
| 1:17:31 PM | 54.7 |
| 1:18:31 PM | 53.3 |
| 1:19:31 PM | 47.7 |
| 1:20:31 PM | 55.4 |
| 1:21:31 PM | 48.4 |
| 1:22:31 PM | 56.1 |
| 1:23:31 PM | 46.9 |
| 1:24:31 PM | 47.2 |
| 1:25:31 PM | 46.8 |
| 1:26:31 PM | 52.7 |
| 1:27:31 PM | 52.6 |
| 1:28:31 PM | 53.5 |
| 1:29:31 PM | 48.2 |

# Noise Measurement Report Form

Project: RC Homes / 1912 Merced.
Contract No (s): N/A
Date: 9/2/21 Day of Week: Thursday Time: 1:14pm
Monitoring Site Number: 2 Monitoring Site Address: 1220 Sunkist. Ave.
Measurement Taken By: Billy
Approximate Wind Speed: 5 (mph) [km/hr] Approximate Wind Direction: From the SW
Approximate distance of Sound Level Meter from Receptor Location: 5ft.
Approximate distance of Sound Level Meter from Project Site: 370ft.

Receptor Land Use (Check One) ☑ Residential / Institutional ☐ Commercial / Recreational
Sound Level Meter: Make and Model: Serial Number:
Meter Setting ☑ A-Weighted Sound Level (SLOW) ☐ C-Weighted Sound Level (FAST) for Impacts
Duration of Measurement: 15m.

Check the measurement purpose:
☑ Baseline condition ☐ Ongoing construction ☐ Major change ☐ Complaint response

**Measurement Results:**

| Measurement Type | Measured Level | Noise Criteria Threshold | Exceedance |
|---|---|---|---|
| Calibration | 114 dba. | n/a | n/a |
| $L_{eq}$ | 52.2 dba. | | |
| $L_{max}$ | | | |
| $L_{dn}$ | | | |
| CNEL | | | |

Field Notes:

1.
2.
3.
4. File 247

# Noise Monitoring Site 3 (1911 Merced Ave.)

# Session Report

**12/14/2021**

## Information Panel

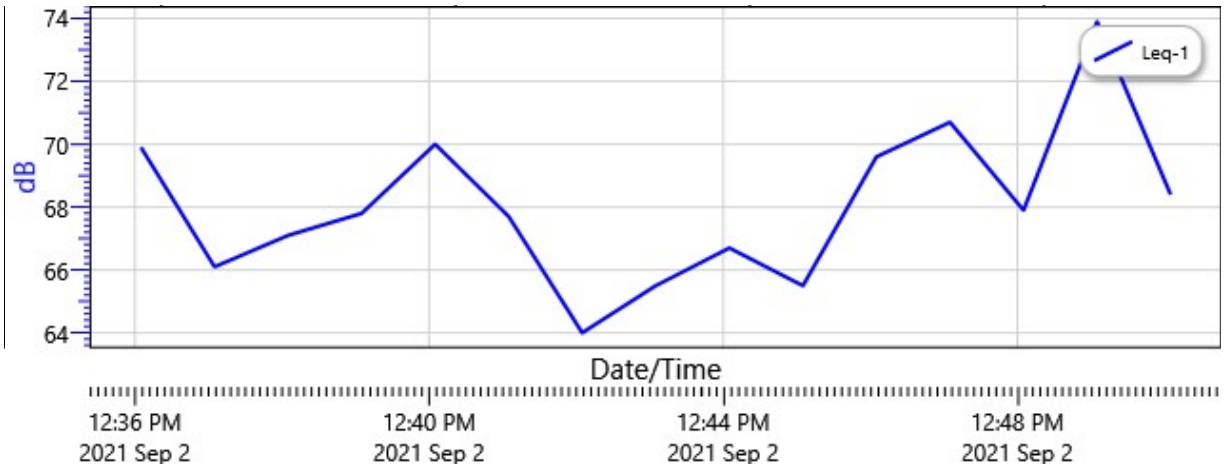
| | |
|---|---|
| Name | RC Homes Project_Site 3 |
| Start Time | 9/2/2021 12:35:05 PM |
| Stop Time | 9/2/2021 12:50:05 PM |
| Device Name | BGS100001 |
| Model Type | SoundPro DL |
| Device Firmware Rev | R.13H |
| Comments | |
| Run Time | 00:15:00 |

## Summary Data Panel

| Description | Meter | Value | Description | Meter | Value |
|---|---|---|---|---|---|
| Leq | 1 | 68.7 dB | Lmax | 1 | 85.3 dB |
| Lmin | 1 | 46.5 dB | | | |
| Exchange Rate | 1 | 3 dB | Weighting | 1 | A |
| Response | 1 | SLOW | Bandwidth | 1 | OFF |
| Exchange Rate | 2 | 3 dB | Weighting | 2 | A |
| Response | 2 | SLOW | | | |

## Logged Data Chart

S246: Logged Data Chart



## Logged Data Table

| Date/Time | Leq-1 |
|---|---|
| 9/2/2021 12:36:05 PM | 69.9 |
| 12:37:05 PM | 66.1 |
| 12:38:05 PM | 67.1 |
| 12:39:05 PM | 67.8 |
| 12:40:05 PM | 70 |
| 12:41:05 PM | 67.7 |
| 12:42:05 PM | 64 |
| 12:43:05 PM | 65.5 |
| 12:44:05 PM | 66.7 |
| 12:45:05 PM | 65.5 |
| 12:46:05 PM | 69.6 |
| 12:47:05 PM | 70.7 |
| 12:48:05 PM | 67.9 |
| 12:49:05 PM | 73.9 |
| 12:50:05 PM | 68.4 |

# Noise Measurement Report Form

Project: RC Homes / 1912 Merced Contract No (s): N/A

Date: 9/2/21 Day of Week: Thursday Time: 12:33pm

Monitoring Site Number: 3 Monitoring Site Address: 1911 Merced.

Measurement Taken By: Baily

Approximate Wind Speed: 5 (mph) [km/hr] Approximate Wind Direction: From the SW

Approximate distance of Sound Level Meter from Receptor Location: 5ft.

Approximate distance of Sound Level Meter from Project Site: 95ft.

Receptor Land Use (Check One) ☑ Residential / Institutional ☐ Commercial / Recreational

Sound Level Meter: Make and Model: _____ Serial Number: _____

Meter Setting ☑ A-Weighted Sound Level (SLOW) ☐ C-Weighted Sound Level (FAST) for Impacts

Duration of Measurement: 15m.

Check the measurement purpose:

☑ Baseline condition ☐ Ongoing construction ☐ Major change ☐ Complaint response

**Measurement Results:**

| Measurement Type | Measured Level | Noise Criteria Threshold | Exceedance |
|---|---|---|---|
| Calibration | 114 dba | n/a | n/a |
| $L_{eq}$ | 68.8 dba | | |
| $L_{max}$ | | | |
| $L_{dn}$ | | | |
| CNEL | | | |

Field Notes:

1. main road.
2. 
3. 
4. File 246

# Noise Monitoring Site 4 (1822 Devers St.)

# Session Report

**12/14/2021**

## Information Panel

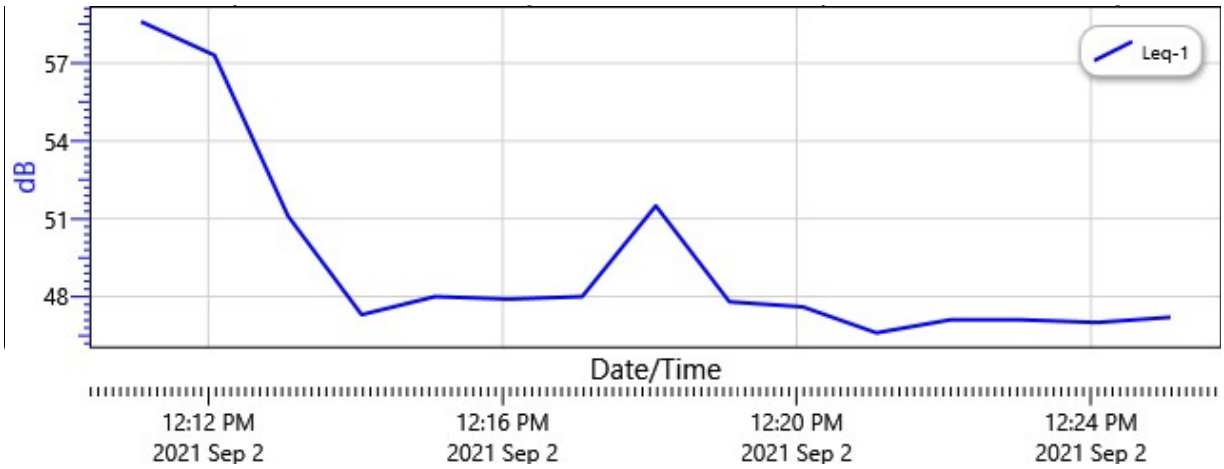
| | |
|---|---|
| Name | RC Homes Project_Site 4 |
| Start Time | 9/2/2021 12:10:05 PM |
| Stop Time | 9/2/2021 12:25:05 PM |
| Device Name | BGS100001 |
| Model Type | SoundPro DL |
| Device Firmware Rev | R.13H |
| Comments | |
| Run Time | 00:15:00 |

## Summary Data Panel

| Description | Meter | Value | Description | Meter | Value |
|---|---|---|---|---|---|
| Leq | 1 | 51.5 dB | Lmax | 1 | 71.4 dB |
| Lmin | 1 | 45.8 dB | | | |
| Exchange Rate | 1 | 3 dB | Weighting | 1 | A |
| Response | 1 | SLOW | Bandwidth | 1 | OFF |
| Exchange Rate | 2 | 3 dB | Weighting | 2 | A |
| Response | 2 | SLOW | | | |

## Logged Data Chart

S245: Logged Data Chart



## Logged Data Table

| Date/Time | Leq-1 |
|---|---|
| 9/2/2021 12:11:05 PM | 58.6 |
| 12:12:05 PM | 57.3 |
| 12:13:05 PM | 51.1 |
| 12:14:05 PM | 47.3 |
| 12:15:05 PM | 48 |
| 12:16:05 PM | 47.9 |
| 12:17:05 PM | 48 |
| 12:18:05 PM | 51.5 |
| 12:19:05 PM | 47.8 |
| 12:20:05 PM | 47.6 |
| 12:21:05 PM | 46.6 |
| 12:22:05 PM | 47.1 |
| 12:23:05 PM | 47.1 |
| 12:24:05 PM | 47 |
| 12:25:05 PM | 47.2 |

# Noise Measurement Report Form

Project: RC Homes / 1912 Morse Contract No (s): N/A

Date: 05/02/21 Day of Week: Thursday Time: 12:58pm

Monitoring Site Number: 4 Monitoring Site Address: 1822/1823 Devers St.

Measurement Taken By: Billy

Approximate Wind Speed: 2 (mph [km/hr]) Approximate Wind Direction: From the SW

Approximate distance of Sound Level Meter from Receptor Location: 5 ft.

Approximate distance of Sound Level Meter from Project Site: 250 ft.

Receptor Land Use (Check One) ☑ Residential / Institutional ☐ Commercial / Recreational

Sound Level Meter: Make and Model: _____ Serial Number: _____

Meter Setting ☑ A-Weighted Sound Level (SLOW) ☐ C-Weighted Sound Level (FAST) for Impacts

Duration of Measurement: 15m.

Check the measurement purpose:

☑ Baseline condition ☐ Ongoing construction ☐ Major change ☐ Complaint response

**Measurement Results:**

| Measurement Type | Measured Level | Noise Criteria Threshold | Exceedance |
|---|---|---|---|
| Calibration | 114 | n/a | n/a |
| $L_{eq}$ | 51.5 | | |
| $L_{max}$ | | | |
| $L_{dn}$ | | | |
| CNEL | | | |

Field Notes:

1. flight route
2. Cul de Sac
3. 
4. File 245

# Noise Monitoring Site 5 (1143 Van Horn Ave.)

# Session Report

**12/14/2021**

## Information Panel

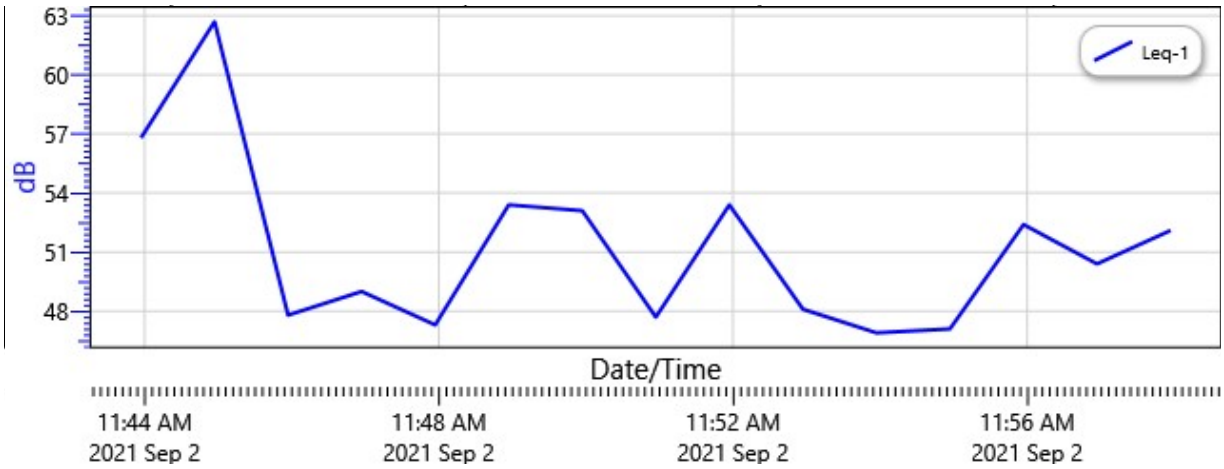
| | |
|---|---|
| Name | RC Homes Project_Site 5 |
| Start Time | 9/2/2021 11:42:57 AM |
| Stop Time | 9/2/2021 11:57:57 AM |
| Device Name | BGS100001 |
| Model Type | SoundPro DL |
| Device Firmware Rev | R.13H |
| Comments | |
| Run Time | 00:15:00 |

## Summary Data Panel

| Description | Meter | Value | Description | Meter | Value |
|---|---|---|---|---|---|
| Leq | 1 | 54 dB | Lmax | 1 | 79.4 dB |
| Lmin | 1 | 46 dB | | | |
| Exchange Rate | 1 | 3 dB | Weighting | 1 | A |
| Response | 1 | SLOW | Bandwidth | 1 | OFF |
| Exchange Rate | 2 | 3 dB | Weighting | 2 | A |
| Response | 2 | SLOW | | | |

## Logged Data Chart

S243: Logged Data Chart



## Logged Data Table

| Date/Time | Leq-1 |
|---|---|
| 9/2/2021 11:43:57 AM | 56.8 |
| 11:44:57 AM | 62.7 |
| 11:45:57 AM | 47.8 |
| 11:46:57 AM | 49 |
| 11:47:57 AM | 47.3 |
| 11:48:57 AM | 53.4 |
| 11:49:57 AM | 53.1 |
| 11:50:57 AM | 47.7 |
| 11:51:57 AM | 53.4 |
| 11:52:57 AM | 48.1 |
| 11:53:57 AM | 46.9 |
| 11:54:57 AM | 47.1 |
| 11:55:57 AM | 52.4 |
| 11:56:57 AM | 50.4 |
| 11:57:57 AM | 52.1 |

# Noise Measurement Report Form

Project: RC Homes Contract No (s): N/A

Date: 9/2/2021 Day of Week: Thursday Time: 11:44 AM.

Monitoring Site Number: 5 Monitoring Site Address: 1143 Van Ham Ave.

Measurement Taken By: Billy

Approximate Wind Speed: 2 mph [km/hr] Approximate Wind Direction: From the SW

Approximate distance of Sound Level Meter from Receptor Location: ~~350~~ 35ft. -

Approximate distance of Sound Level Meter from Project Site: 390ft -

Receptor Land Use (Check One) ☑ Residential / Institutional ☐ Commercial / Recreational

Sound Level Meter: Make and Model: ☑ Serial Number:

Meter Setting ☑ A-Weighted Sound Level (SLOW) ☐ C-Weighted Sound Level (FAST) for Impacts

Duration of Measurement: 15m.

Check the measurement purpose:

☑ Baseline condition ☐ Ongoing construction ☐ Major change ☐ Complaint response

**Measurement Results:**

| Measurement Type | Measured Level | Noise Criteria Threshold | Exceedance |
|---|---|---|---|
| Calibration | 114 dbA. | n/a | n/a |
| $L_{eq}$ | 54.1 dbA | | |
| $L_{max}$ | | | |
| $L_{dn}$ | | | |
| CNEL | | | |

Field Notes:

1. plane route.
2.
3.
4. File 243

## Noise Formulas

### Noise Distance Attenuation

**Hard Site**

**Equation:** Ni = No - 20*(log Di/Do)

**Ni** = attenuated noise level of interest
**No** = reference noise level

**Di** = distance to receptor (Di>Do)

**Do** = reference distance

**Source:** (Bolt, Beranek, and Newman, 1971)

### Summation of Noise Levels

**Equation:** Ns=10 x LOG10((10^(N1/10))+(10^(N2/10))+(10^(N3/10))+(10^(N4/10)))

Ns = Noise Level Sum
N1 = Noise Level 1
N2 = Noise Level 2
N3 = Noise Level 3
N4 = Noise Level 4

**Source:** California Department of Transportation, Technical Noise Supplement, 2013

## Construction Noise Analysis

| Phased Construction Noise Levels | |
|---|---|
| **Construction Equipment** | **Noise Level at 50 feet (dBA)** |
| **Demolition** | |
| Concrete Saw | 82.6 |
| Dozer | 77.7 |
| Backhoe | 73.6 |
| **Demolition Combined** | **84.2** |
| **Site Preparation** | |
| Grader | 81 |
| Dozer | 77.7 |
| Backhoe | 73.6 |
| **Site Preparation Combined** | **83.2** |
| **Excavation** | |
| Grader | 81 |
| Dozer | 77.7 |
| Backhoe | 73.6 |
| **Grading Combined** | **83.2** |
| **Building Construction** | |
| Crane | 72.6 |
| Forklift | 79.4 |
| Generator | 77.6 |
| Backhoe | 73.6 |
| Welder | 70 |
| **Building Construction Combined** | **82.9** |
| **Paving** | |
| Concrete Mixer | 74.8 |
| Paver | 74.2 |
| Roller | 73.0 |
| Backhoe | 73.6 |
| **Paving Combined** | **80.0** |
| **Architectural Coating** | |
| Air Compressor | 73.7 |
| **Architectural Coating Combined** | **73.7** |

**Source**: Federal Highway Administration, Roadway Construction Noise Model, 2008

| [Noise Measurement Site] Noise Monitoring Locations | Sound Level (dBA, Leq) |
|---|---|
| Residence (1221 Van Horn Ave.) | 48.0 |
| Residence (1220 Sunkist Ave.) | 52.2 |
| Residence (1911 Merced Ave.) | 68.8 |
| Residence (1822 Devers St.) | 51.5 |
| Residence (1143 Van Horn Ave.) | 54.1 |

**Source:** TAHA, 2021.

| Construction: Resulting Noise Level Increases | | | | | | |
|---|---|---|---|---|---|---|
| **Sensitive Receptor** | **Distance (feet)** | **Intervening Building /a/** | **Reference Noise Level (dBA)** | **Max Construction Noise (dBA, Leq)** | **Existing Ambient (dBA, Leq)** | **New Ambient (dBA, Leq)** |
| Residences to the west | 50 | 0 | 84.2 | 84.2 | 47.9 | 84.2 |
| Residences to the northeast | 100 | 0 | 84.2 | 78.2 | 68.7 | 78.6 |
| Residences to the west | 200 | 4.5 | 84.2 | 67.7 | 52.1 | 67.8 |
| Residences to the northeast | 300 | 4.5 | 84.2 | 64.1 | 51.5 | 64.4 |
| Church of Jesus Christ of Latter Day Saints | 350 | 0 | 84.2 | 67.3 | 47.9 | 67.3 |
| Residences to the northeast | 400 | 6 | 84.2 | 60.1 | 54 | 61.1 |
| Residences to the northwest | 400 | 6 | 84.2 | 60.1 | 52.1 | 60.8 |
| Residences to the south | 440 | 4.5 | 84.2 | 60.8 | 52.1 | 61.4 |

/a/ -4.5 dB for on intervening row of buildings and -1.5 dB for each subsequent row

| Mitigated Construction: Resulting Noise Level Increases | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Sensitive Receptor** | **Distance (feet)** | **Intervening Building /a/** | **Reference Noise Level (dBA)** | **Mitigation /b/** | **Mitigated Noise Level** | **Max Construction Noise (dBA, Leq)** | **Existing Ambient (dBA, Leq)** | **New Ambient (dBA, Leq)** |
| Residences to the west | 50 | 0 | 84.2 | 15 | 69.2 | 69.2 | 47.9 | 69.2 |
| Residences to the northeast | 100 | 0 | 84.2 | 15 | 69.2 | 63.2 | 68.7 | 69.8 |
| Residences to the west | 200 | 4.5 | 84.2 | 15 | 69.2 | 52.7 | 52.1 | 55.4 |
| Residences to the northeast | 300 | 4.5 | 84.2 | 15 | 69.2 | 49.1 | 51.5 | 53.5 |
| Church of Jesus Christ of Latter Day Saints | 350 | 0 | 84.2 | 5 | 79.2 | 62.3 | 47.9 | 62.5 |
| Residences to the northeast | 400 | 6 | 84.2 | 15 | 69.2 | 45.1 | 54 | 54.5 |
| Residences to the northwest | 400 | 6 | 84.2 | 15 | 69.2 | 45.1 | 52.1 | 52.9 |
| Residences to the south | 440 | 4.5 | 84.2 | 5 | 79.2 | 55.8 | 52.1 | 57.4 |

/a/ -4.5 dB for on intervening row of buildings and -1.5 dB for each subsequent row
/b/ Includes a 5 dB reduction for construction equipment mufflers and a 10 dB reduction for temporary noise barriers

## Vibration Formulas

### Vibration PPV Attenuation

**Equation:** PPVequip = PPVref x (25/D)^1.5
**PPV (equip)** is the peak particle velocity in in/sec of the equipment adjusted for distance
**PPV (ref)** is the reference vibration level in in/sec at 25 feet from Table 12-2
**D** is the distance from the equipment to the receiver.

**Source**: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, September 2018.

### Vibration VdB Attenuation

Equation: Lv(D) = Lv(25 ft) - 30log(D/25)
D = Distance (feet)
Lv(D) = Vibration Level

**Source**: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, September 2018.

<Organization?>
<Analysis By?>

14 December 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: <Project Name?>
RUN: <Run Title?>
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

| Receiver Name | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h Calculated | Crit'n | Increase over existing Calculated | Crit'n Sub'l Inc | Type Impact | With Barrier Calculated LAeq1h | Noise Reduction Calculated | Goal | Calculated minus Goal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | dBA | dBA | dBA | dB | dB | | dBA | dB | dB | dB |
| Receiver1 | 1 | 1 | 0.0 | 65.6 | 66 | 65.6 | 10 | ---- | 65.6 | 0.0 | 8 | -8.0 |

| Dwelling Units | # DUs | Noise Reduction Min | Avg | Max |
|---|---|---|---|---|
| | | dB | dB | dB |
| All Selected | 1 | 0.0 | 0.0 | 0.0 |
| All Impacted | 0 | 0.0 | 0.0 | 0.0 |
| All that meet NR Goal | 0 | 0.0 | 0.0 | 0.0 |

<Organization?>
<Analysis By?>

14 December 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: <Project Name?>
RUN: <Run Title?>
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

| Receiver Name | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h Calculated | Crit'n | Increase over existing Calculated | Crit'n Sub'l Inc | Type Impact | With Barrier Calculated LAeq1h | Noise Reduction Calculated | Goal | Calculated minus Goal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | dBA | dBA | dBA | dB | dB | | dBA | dB | dB | dB |
| Receiver1 | 1 | 1 | 0.0 | 65.7 | 66 | 65.7 | 10 | ---- | 65.7 | 0.0 | 8 | -8.0 |

| Dwelling Units | # DUs | Noise Reduction Min | Avg | Max |
|---|---|---|---|---|
| | | dB | dB | dB |
| All Selected | 1 | 0.0 | 0.0 | 0.0 |
| All Impacted | 0 | 0.0 | 0.0 | 0.0 |
| All that meet NR Goal | 0 | 0.0 | 0.0 | 0.0 |

<Organization?>
<Analysis By?>

14 December 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: <Project Name?>
RUN: <Run Title?>
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

| Receiver Name | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h Calculated | Crit'n | Increase over existing Calculated | Crit'n Sub'l Inc | Type Impact | With Barrier Calculated LAeq1h | Noise Reduction Calculated | Goal | Calculated minus Goal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | dBA | dBA | dBA | dB | dB | | dBA | dB | dB | dB |
| Receiver1 | 1 | 1 | 0.0 | 65.7 | 66 | 65.7 | 10 | ---- | 65.7 | 0.0 | 8 | -8.0 |

| Dwelling Units | # DUs | Noise Reduction Min | Avg | Max |
|---|---|---|---|---|
| | | dB | dB | dB |
| All Selected | 1 | 0.0 | 0.0 | 0.0 |
| All Impacted | 0 | 0.0 | 0.0 | 0.0 |
| All that meet NR Goal | 0 | 0.0 | 0.0 | 0.0 |

<Organization?>
<Analysis By?>

14 December 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: <Project Name?>
RUN: <Run Title?>
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

| Receiver Name | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h Calculated | Crit'n | Increase over existing Calculated | Crit'n Sub'l Inc | Type Impact | With Barrier Calculated LAeq1h | Noise Reduction Calculated | Goal | Calculated minus Goal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | dBA | dBA | dBA | dB | dB | | dBA | dB | dB | dB |
| Receiver1 | 1 | 1 | 0.0 | 65.7 | 66 | 65.7 | 10 | ---- | 65.7 | 0.0 | 8 | -8.0 |

| Dwelling Units | # DUs | Noise Reduction Min | Avg | Max |
|---|---|---|---|---|
| | | dB | dB | dB |
| All Selected | 1 | 0.0 | 0.0 | 0.0 |
| All Impacted | 0 | 0.0 | 0.0 | 0.0 |
| All that meet NR Goal | 0 | 0.0 | 0.0 | 0.0 |

<Organization?>
<Analysis By?>

14 December 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: <Project Name?>
RUN: <Run Title?>
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

| Receiver Name | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h Calculated | Crit'n | Increase over existing Calculated | Crit'n Sub'l Inc | Type Impact | With Barrier Calculated LAeq1h | Noise Reduction Calculated | Goal | Calculated minus Goal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | dBA | dBA | dBA | dB | dB | | dBA | dB | dB | dB |
| Receiver1 | 1 | 1 | 0.0 | 65.8 | 66 | 65.8 | 10 | ---- | 65.8 | 0.0 | 8 | -8.0 |

| Dwelling Units | # DUs | Noise Reduction Min | Avg | Max |
|---|---|---|---|---|
| | | dB | dB | dB |
| All Selected | 1 | 0.0 | 0.0 | 0.0 |
| All Impacted | 0 | 0.0 | 0.0 | 0.0 |
| All that meet NR Goal | 0 | 0.0 | 0.0 | 0.0 |

<Organization?>
<Analysis By?>

14 December 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: <Project Name?>
RUN: <Run Title?>
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

| Receiver Name | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h Calculated | Crit'n | Increase over existing Calculated | Crit'n Sub'l Inc | Type Impact | With Barrier Calculated LAeq1h | Noise Reduction Calculated | Goal | Calculated minus Goal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | dBA | dBA | dBA | dB | dB | | dBA | dB | dB | dB |
| Receiver1 | 1 | 1 | 0.0 | 65.8 | 66 | 65.8 | 10 | ---- | 65.8 | 0.0 | 8 | -8.0 |

| Dwelling Units | # DUs | Noise Reduction Min | Avg | Max |
|---|---|---|---|---|
| | | dB | dB | dB |
| All Selected | 1 | 0.0 | 0.0 | 0.0 |
| All Impacted | 0 | 0.0 | 0.0 | 0.0 |
| All that meet NR Goal | 0 | 0.0 | 0.0 | 0.0 |

<Organization?>
<Analysis By?>

14 December 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: <Project Name?>
RUN: <Run Title?>
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

| Receiver Name | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h Calculated | Crit'n | Increase over existing Calculated | Crit'n Sub'l Inc | Type Impact | With Barrier Calculated LAeq1h | Noise Reduction Calculated | Goal | Calculated minus Goal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | dBA | dBA | dBA | dB | dB | | dBA | dB | dB | dB |
| Receiver1 | 1 | 1 | 0.0 | 66.7 | 66 | 66.7 | 10 | Snd Lvl | 66.7 | 0.0 | 8 | -8.0 |

| Dwelling Units | # DUs | Noise Reduction Min | Avg | Max |
|---|---|---|---|---|
| | | dB | dB | dB |
| All Selected | 1 | 0.0 | 0.0 | 0.0 |
| All Impacted | 1 | 0.0 | 0.0 | 0.0 |
| All that meet NR Goal | 0 | 0.0 | 0.0 | 0.0 |

<Organization?>
<Analysis By?>

14 December 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: <Project Name?>
RUN: <Run Title?>
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

| Receiver Name | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h Calculated | Crit'n | Increase over existing Calculated | Crit'n Sub'l Inc | Type Impact | With Barrier Calculated LAeq1h | Noise Reduction Calculated | Goal | Calculated minus Goal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | dBA | dBA | dBA | dB | dB | | dBA | dB | dB | dB |
| Receiver1 | 1 | 1 | 0.0 | 66.8 | 66 | 66.8 | 10 | Snd Lvl | 66.8 | 0.0 | 8 | -8.0 |

| Dwelling Units | # DUs | Noise Reduction Min | Avg | Max |
|---|---|---|---|---|
| | | dB | dB | dB |
| All Selected | 1 | 0.0 | 0.0 | 0.0 |
| All Impacted | 1 | 0.0 | 0.0 | 0.0 |
| All that meet NR Goal | 0 | 0.0 | 0.0 | 0.0 |

<Organization?>
<Analysis By?>

14 December 2021
TNM 2.5
Calculated with TNM 2.5

RESULTS: SOUND LEVELS
PROJECT/CONTRACT: <Project Name?>
RUN: <Run Title?>
BARRIER DESIGN: INPUT HEIGHTS
ATMOSPHERICS: 68 deg F, 50% RH

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.

| Receiver Name | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h Calculated | Crit'n | Increase over existing Calculated | Crit'n Sub'l Inc | Type Impact | With Barrier Calculated LAeq1h | Noise Reduction Calculated | Goal | Calculated minus Goal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | dBA | dBA | dBA | dB | dB | | dBA | dB | dB | dB |
| Receiver1 | 1 | 1 | 0.0 | 66.8 | 66 | 66.8 | 10 | Snd Lvl | 66.8 | 0.0 | 8 | -8.0 |

| Dwelling Units | # DUs | Noise Reduction Min | Avg | Max |
|---|---|---|---|---|
| | | dB | dB | dB |
| All Selected | 1 | 0.0 | 0.0 | 0.0 |
| All Impacted | 1 | 0.0 | 0.0 | 0.0 |
| All that meet NR Goal | 0 | 0.0 | 0.0 | 0.0 |

# Appendix C

Focused Traffic Analysis

1100 Corporate Center Drive, Suite 201, Monterey Park, CA 91754
T: (323) 260-4703 | F: (323) 260-4705 | www.koacorp.com
MONTEREY PARK ORANGE ONTARIO SAN DIEGO LA QUINTA CULVER CITY

**TECHNICAL MEMORANDUM**

Date: February 9, 2022

To: Jo-Anne Burns – Planning Manager, City of West Covina

From: Brian Marchetti, AICP

Subject Focused Traffic Analysis – Proposed Project at 1912 West Merced Avenue, West Covina

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This traffic review was prepared by KOA for the proposed residential project at 1912 West Merced Avenue in the City of West Covina. The contents are based on traffic conditions defined for the project in a November 8, 2021 letter from the City.

This document evaluates the estimated project trip generation based on the proposed land uses at the site versus thresholds for impact studies defined by the City traffic review guidelines. Site circulation and access is reviewed, and an evaluation is provided of potential project vehicle miles traveled (VMT) impacts for California Environmental Quality Act (CEQA) requirements.

## Vehicle Miles Traveled (VMT) CEQA Analysis

Vehicle Miles Traveled (VMT) is the primary metric for evaluating the transportation impacts of projects under the California Environmental Quality Act (CEQA). 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. The project land use will be a townhouse development of 39 units.

The analysis of the project in the San Gabriel Valley Council of Governments (SGVCOG) *VMT Evaluation Tool* indicated that the project is located in a low VMT area. The low-VMT area-screening threshold was met for the project or "Yes (Pass)" as output by the Tool. Therefore, impacts of the project on regional VMT values would less be significant, and the project can be exempted from further analysis under CEQA.

The VMT Tool output is provided in Attachment A.

## Trip Generation

The project site is currently vacant. The proposed 39 townhomes will be built in six separate buildings on the site. The trip generation of the proposed project was calculated with the number of units and trip rates defined by *Trip Generation Manual, 11th Edition*, published by the Institute of Transportation Engineers (ITE).

An analysis of project trip generation as provided in Table 1 indicates that the project would generate a daily net total of 263 trips, including 15 trips during the AM peak hour and 20 trips during the PM peak hour.

**TABLE 1 – PROJECT TRIP GENERATION**

| ITE Code | Land Use | Intensity | Units | Weekday | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Daily | AM Peak Hour | | | PM Peak Hour | | |
| | | | | Rate | Rate | In | Out | Rate | In | Out |
| ***Trip Generation Rates*** | | | | | | | | | | |
| 220 | Multifam Housing (Low-Rise) | - | Units | 6.74 | 0.40 | 24% | 77% | 0.51 | 63% | 37% |
| ***Trip Generation Totals-New Use*** | | | | | | | | | | |
| 220 | Multifam Housing (Low-Rise) | 39 | Units | 263 | 15 | 4 | 11 | 20 | 13 | 7 |
| **Total** | | **39** | | **263** | **15** | **4** | **11** | **20** | **13** | **7** |

*Trip Rates Source: ITE Trip Generation, 11th Edition*

The City traffic analysis guidelines require a full report with area level of service analysis when generated trips exceed 50 during either the AM or PM peak hours to any signalized intersection. The peak-hour trip totals are below the minimum City threshold, and therefore this focused project traffic analysis in memorandum format per the guidelines has been produced.

## Project Site Circulation

Project site circulation was reviewed in terms of driveway access, internal circulation, and parking provisions. Additional analysis of project driveway vehicle queuing and sight distance for vehicles exiting the driveway is provided in later sections.

The project site is proposed to have a single access point at the southeast corner of the site on Merced Avenue. The project driveway is not planned to be gated, and therefore no inbound vehicle queuing will occur at the site entrance.

The project site will provide 78 spaces within garages and eight additional spaces in head-in guest spaces. The required parking per the Municipal Code is two spaces per dwelling unit or 78 spaces, with a 10 percent total of those spaces provided as additional guest spaces or eight spaces. The site meets these parking requirements. Three guest spaces are provided at the northwest side of the site along the north roadway, three guest spaces are provided along the south roadway, and two guest spaces are provided at the southeast side of the site along the east roadway.

On-street parking is permitted along Van Horn Avenue at the north frontage of the site and along Merced Avenue at the east frontage. Parking usage during daytime and evening hours is light to none in these two adjacent areas, based on visits to the site. As the Code requirements are met, and as existing parking demand at the on-street spaces along the site frontages is low, parking impacts to nearby residents are not expected to be substantial.

A truck turning template analysis was conducted, showing a trash truck of typical dimensions entering and exiting the driveway and traversing the on-site roadways. No geometric constraints within the on-site roadways were identified from this analysis. The turning template analysis drawing is provided in Attachment B.

## Driveway Queuing Analysis

An analysis was conducted of 95th percentile vehicle queues for inbound left-turn movements into the project driveway, to determine whether the roadway link could accommodate a left-turn pocket with adequate storage for the expected queue. Inputs included project trip generation and roadway intersection counts conducted in 2019 at the Orange Avenue and Merced Avenue intersection for a previous traffic analysis of the project site. Volumes were factored by a two percent rate for two years of growth.

Any queuing activity would not directly overlap with the eastbound left-turn pocket for the intersection of Orange Avenue and Merced Avenue, as there is not a center two-way left-turn lane at the back of that eastbound turn pocket under existing conditions.

The intersection at Orange Avenue has striped left tum pockets with a striped centerline.
The proposed project driveway is located approximately 180 feet to the north of this intersection. The driveway is approximately 75 feet north of the end of the northwest intersection leg approach striped left-turn pocket.

The typical inbound left-turn movement queue at the project driveway would be less than one vehicle in average length during both peak periods. In most circumstances, therefore, there should be no queuing activity at the driveway.

Inbound left-turn movement queuing for vehicles is expected to be approximately eight seconds per vehicle in both the AM and PM peak hours, based on analysis of driveway operations with project trip assignment and the counts from the adjacent Orange Avenue intersection. The queuing at the left-turn lane of the southeast approach of the Orange Avenue intersection is approximately 96 feet in the AM peak hour and 79 feet in the PM peak hour, based on an operational analysis conducted. The turn pocket length is 100 feet, and therefore vehicle queue spillover from this left-turn lane is unlikely.

There would not be queuing conflicts between the project inbound left-turn vehicle movement and the southeast left-turn movement at the adjacent intersection. It is therefore recommended that no movement prohibitions be established at the site driveway. A center two-way left turn lane can be provided to the northwest of the left turn pocket of the Orange Avenue intersection. This would provide a transition area for both inbound left-turn movements and outbound left-turn movements to and from the project driveway. A conceptual design for the recommended center two-way left turn lane is provided in Attachment C.

Traffic counts for the Orange Avenue intersection are provided in Attachment D. The queuing analysis worksheets for the project driveway and the adjacent intersection at Orange Avenue are provided in Attachment E. The existing lane widths and roadway striping in the vicinity are shown in the sight distance drawing in Attachment F.

## Project Driveway Sight Distance

An engineering drawing was produced to illustrate the lines of sight to and from the project driveway, and to also provide the roadway dimensions adjacent to the site on Merced Avenue. The drawing also illustrates any necessary additions to red curb areas/prohibited parking to provide for adequate sight

distance at the driveway. There are no access driveways on the opposite side of Merced Avenue that create potential conflicts for turning movements.

Sight distance conditions at the project driveway intersection with Merced Avenue, the primary project site access point to the local roadway system, were analyzed based on standards in the Caltrans Highway Design Manual. This is a conservative source for the definition of recommended sight distances for oncoming vehicles and vehicles departing the project site. Merced Avenue has a posted speed of 40 mph, and this was used as an input to the analysis.

The photos below provide views of typical sight distance for a vehicle, for both directions of Garvey Avenue, at this location.

| | |
|---|---|
|  |  |
| View from driveway intersection,<br>to the southeast on Merced Avenue | View from driveway intersection,<br>to the northwest on Merced Avenue |

The Highway Design Manual, in Table 201.1 Sight Distance Standards, defines the sight distance for roadways based on design speeds. Based on the 40 mph posted speed on Merced Avenue, the stopping sight distance is 300 feet. There is adequate straight-line views in both directions for approaching vehicles at this distance, as shown by the Stopping Sight Distance drawing.

The Minimum Corner Sight Distance standards from the Highway Design Manual were applied to the driveway location and analyzed. The 300-foot distance applicable to this analysis would overlap with approximately five parked vehicles on Merced Avenue to the northwest of the project driveway. Therefore, it is recommended that 125 feet of additional area for prohibited parking and red curb treatment be included in this area.

The sight distance drawings are provided in Attachment F.

## Project Construction

This section documents project construction details, for construction duration, type of work, type of vehicles, construction vehicle access, and staging areas.

Construction of the proposed project is anticipated to begin in June 2022 and would last approximately 18 months. Construction would occur in two phases. Phase 1 includes site clearing, grading, and installation of all utilities and roadways, and Phase 2 includes the construction of all buildings. Site clearing and grading activities are estimated to last approximately two months, paving would last for approximately one month, and building construction would last for approximately 16 months.

Construction activity would occur Mondays through Saturdays for eight hours per day, in accordance with the City's permitted hours of construction. Completion of the proposed project is expected to occur in January 2024.

Construction operations will minimize impacts to the adjacent neighborhood by using the existing site driveway on Merced Avenue for construction employee vehicle and haul/delivery truck access, rather than using local residential roadways such as Van Horn Avenue.

**ATTACHMENT A-**
VEHICLES MILES TRAVELED (VMT) TOOL OUTPUT

# SGVCOG VMT Evaluation Tool Report



## Project Details

Timestamp of Analysis: December 10, 2021, 05:02:40 PM

Project Name: 1912 West Merced Avenue

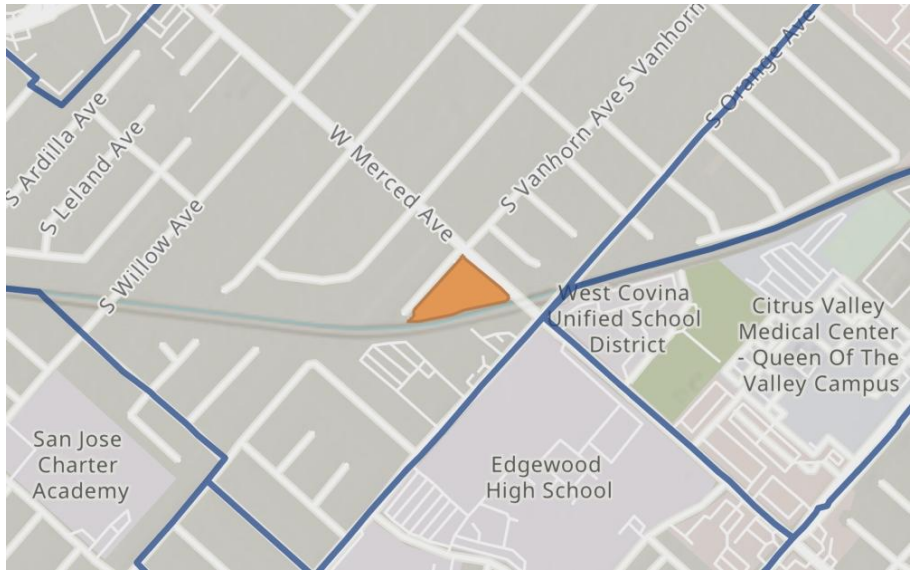
Project Description: 39 townhouses

## Project Location

Jurisdiction:
West Covina

| APN | TAZ |
|---|---|
| 8467-016-020 | 22296100 |

Inside a TPA?
No (Fail)




## Analysis Details

Data Version: SCAG Regional Travel Demand Model
2016 RTP Base Year 2012

Analysis Methodology: TAZ

Baseline Year: 2022

## Project Land Use

### Residential:

| | |
|---|---|
| Single Family DU: | |
| Multifamily DU: | 39 |
| Total DUs: | 39 |

### Non-Residential:

Office KSF:

Local Serving Retail KSF:

Industrial KSF:

### Residential Affordability (percent of all units):

| | |
|---|---|
| Extremely Low Income: | 0 % |
| Very Low Income: | 0 % |
| Low Income: | 0 % |

### Parking:

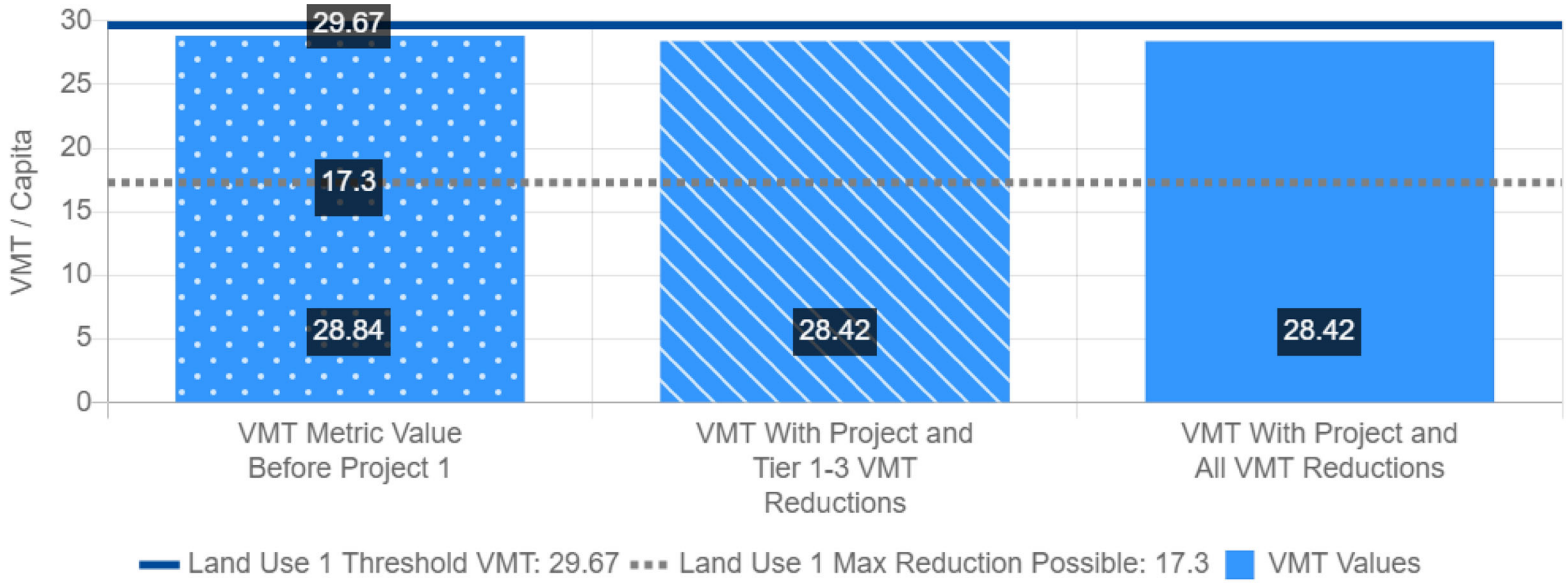
Motor Vehicle Parking:

Bicycle Parking:

## Residential Vehicle Miles Traveled (VMT) Screening Results

| | |
|---|---|
| Land Use Type 1: | Residential |
| VMT Without Project 1: | Total VMT per Service Population |
| VMT Baseline Description 1: | SGVCOG Average |
| VMT Baseline Value 1: | 34.9 |
| VMT Threshold Description 1: | -15% |
| Land Use 1 has been Pre-Screened by the Local Jurisdiction: | N/A |

| | Without Project | With Project & Tier 1-3 VMT Reductions | With Project & All VMT Reductions |
|---|---|---|---|
| Project Generated Vehicle Miles Traveled (VMT) Rate | 28.84 | 28.42 | 28.42 |
| Low VMT Screening Analysis | Yes (Pass) | Yes (Pass) | Yes (Pass) |

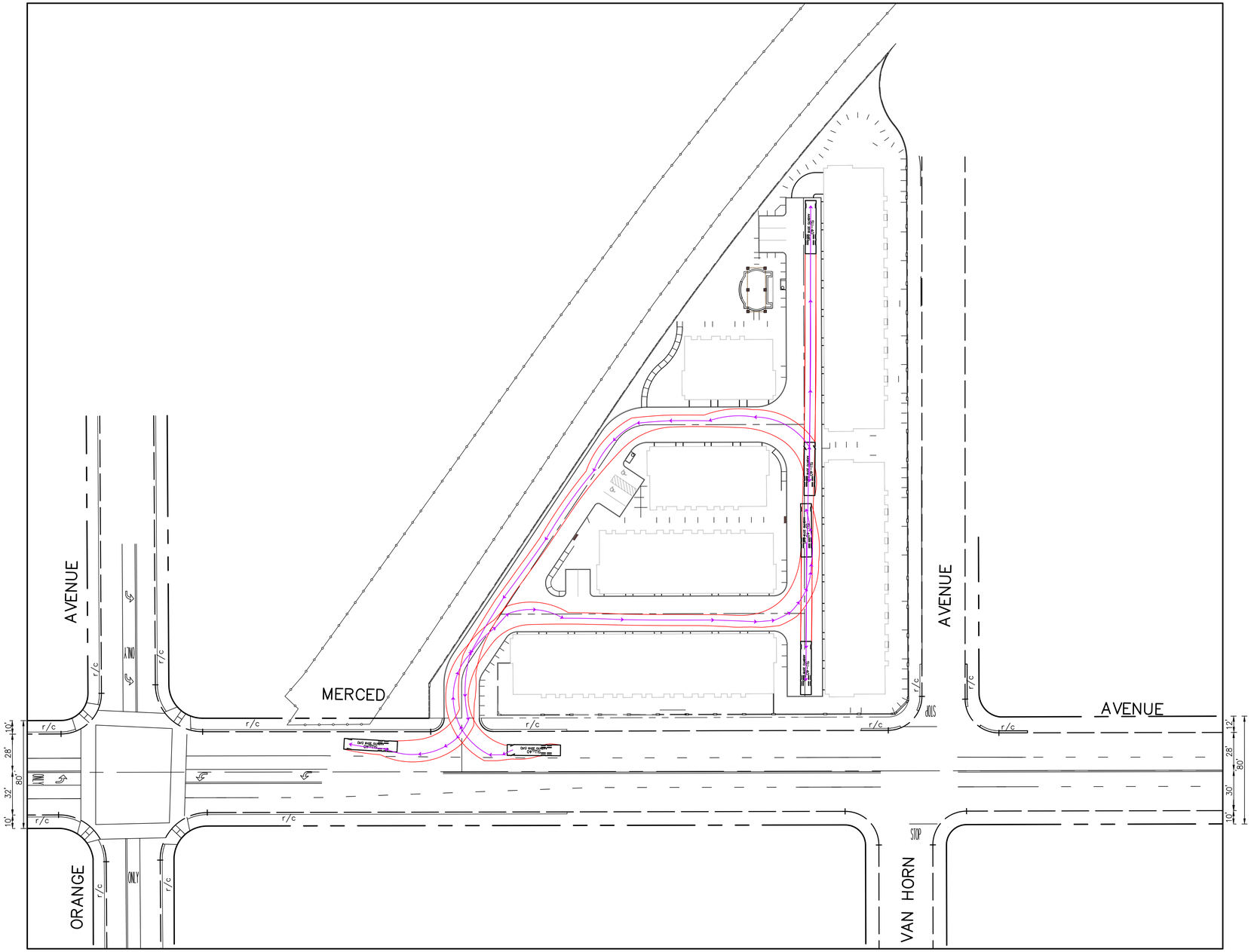


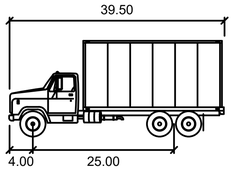
## Tier 1 Project Characteristics

PC01 Increase Residential Density

| | |
|---|---|
| Existing Residential Density: | 4.77 |
| With Project Residential Density: | 4.99 |

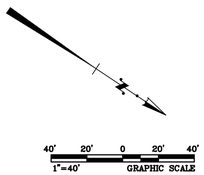
**ATTACHMENT B-**
SITE TRASH TRUCK TURNING RADIUS ANALYSIS




SU-40

| | feet |
|---|---|
| Width | : 8.00 |
| Track | : 8.00 |
| Lock to Lock Time | : 6.0 |
| Steering Angle | : 31.8 |




Plan Prepared By:
KOA
1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754
Tel: (323) 260-4703 Fax: (323) 260-4705

**ATTACHMENT D**

# TRASH TRUCK TURNING TEMPLATE

**ATTACHMENT C -**
CONCEPTUAL DESIGN FOR TWO-WAY LEFT-TURN LANE

LEGEND

= EXISTING STRIPING & MARKINGS TO REMAIN.

= EXISTING STRIPING & MARKINGS TO BE REMOVED.

= PROPOSED STRIPING & MARKINGS.

= EXISTING SIGN AND POST.

= EXISTING SIGN AND POST TO BE REMOVED OR RELOCATED.

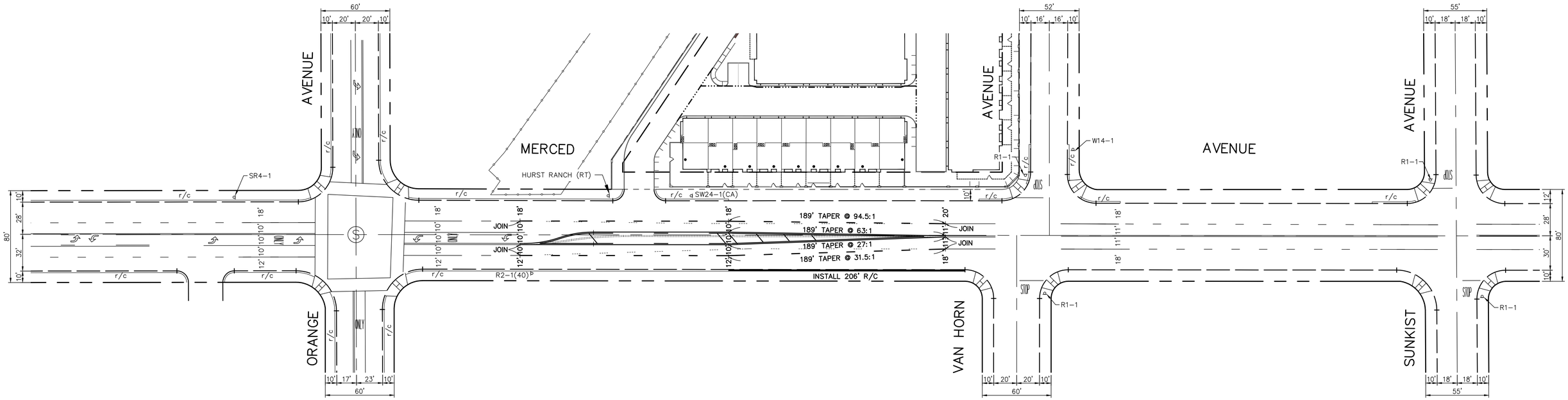
= PROPOSED SIGN AND POST.

(S) = SIGNALIZED INTERSECTION.

r/c = EXISTING RED CURB MARKINGS TO REMAIN.

r/c = EXISTING RED CURB MARKINGS TO BE REMOVED.

R/C = PROPOSED RED CURB MARKINGS.




This drawing provides a concept for a two-way-left-turn-turn lane in front of the driveway to ease traffic turning in and our of the driveway. The final striping plan between Orange Avenue to north of the driveway will be reviewed and approved as part of the City's permit process and to the satisfaction of the City.


Plan Prepared By:

KOA

1100 Corporate Center Drive, Suite 201
Monterey Park, California 91754
Tel: (323) 260-4703 Fax: (323) 260-4705


40' 20' 0 20' 40'
1"=40' GRAPHIC SCALE

# MERCED AVENUE CONCEPT STRIPING PLAN

**ATTACHMENT D -**
TRAFFIC COUNTS AT ORANGE/MERCED INTERSECTION

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of West Covina
N/S: Orange Avenue
E/W: Merced Avenue
Weather: Clear

File Name : 03_WCO_Orange_Merced AM
Site Code : 04119728
Start Date : 10/22/2019
Page No : 1

Groups Printed- Total Volume

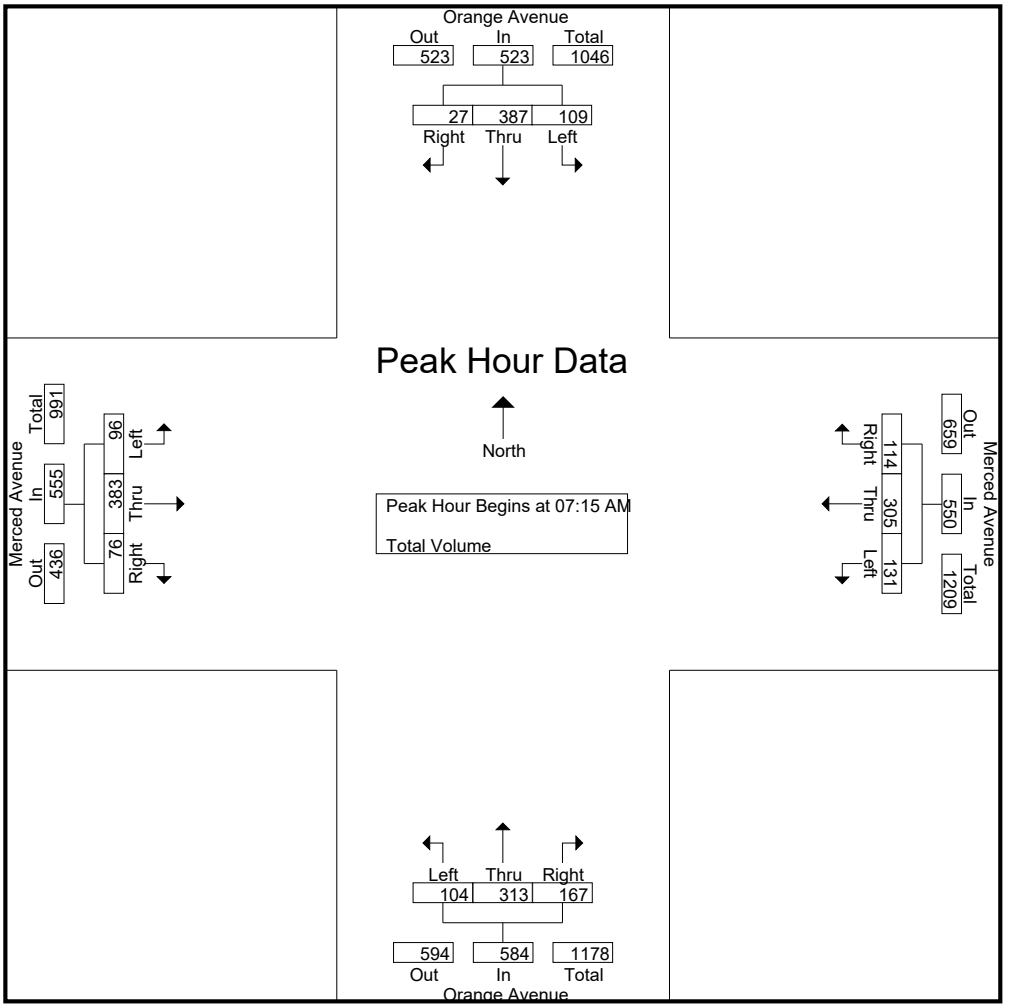
| | Orange Avenue Southbound | | | | Merced Avenue Westbound | | | | Orange Avenue Northbound | | | | Merced Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 07:00 AM | 16 | 83 | 8 | 107 | 26 | 60 | 25 | 111 | 10 | 43 | 15 | 68 | 9 | 51 | 9 | 69 | 355 |
| 07:15 AM | 31 | 140 | 3 | 174 | 61 | 70 | 25 | 156 | 17 | 63 | 19 | 99 | 19 | 85 | 22 | 126 | 555 |
| 07:30 AM | 28 | 151 | 9 | 188 | 31 | 104 | 24 | 159 | 29 | 76 | 66 | 171 | 28 | 116 | 27 | 171 | 689 |
| 07:45 AM | 33 | 74 | 10 | 117 | 23 | 74 | 29 | 126 | 31 | 98 | 56 | 185 | 43 | 113 | 21 | 177 | 605 |
| Total | 108 | 448 | 30 | 586 | 141 | 308 | 103 | 552 | 87 | 280 | 156 | 523 | 99 | 365 | 79 | 543 | 2204 |
| | | | | | | | | | | | | | | | | | |
| 08:00 AM | 17 | 22 | 5 | 44 | 16 | 57 | 36 | 109 | 27 | 76 | 26 | 129 | 6 | 69 | 6 | 81 | 363 |
| 08:15 AM | 18 | 35 | 5 | 58 | 17 | 50 | 19 | 86 | 7 | 38 | 9 | 54 | 3 | 61 | 3 | 67 | 265 |
| 08:30 AM | 14 | 32 | 6 | 52 | 16 | 46 | 17 | 79 | 8 | 28 | 10 | 46 | 3 | 63 | 5 | 71 | 248 |
| 08:45 AM | 20 | 31 | 4 | 55 | 5 | 46 | 14 | 65 | 10 | 30 | 23 | 63 | 13 | 55 | 3 | 71 | 254 |
| Total | 69 | 120 | 20 | 209 | 54 | 199 | 86 | 339 | 52 | 172 | 68 | 292 | 25 | 248 | 17 | 290 | 1130 |
| | | | | | | | | | | | | | | | | | |
| Grand Total | 177 | 568 | 50 | 795 | 195 | 507 | 189 | 891 | 139 | 452 | 224 | 815 | 124 | 613 | 96 | 833 | 3334 |
| Apprch % | 22.3 | 71.4 | 6.3 | | 21.9 | 56.9 | 21.2 | | 17.1 | 55.5 | 27.5 | | 14.9 | 73.6 | 11.5 | | |
| Total % | 5.3 | 17 | 1.5 | 23.8 | 5.8 | 15.2 | 5.7 | 26.7 | 4.2 | 13.6 | 6.7 | 24.4 | 3.7 | 18.4 | 2.9 | 25 | |

| | Orange Avenue Southbound | | | | Merced Avenue Westbound | | | | Orange Avenue Northbound | | | | Merced Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:15 AM | | | | | | | | | | | | | | | | | |
| 07:15 AM | 31 | 140 | 3 | 174 | **61** | 70 | 25 | 156 | 17 | 63 | 19 | 99 | 19 | 85 | 22 | 126 | 555 |
| 07:30 AM | 28 | **151** | 9 | **188** | 31 | **104** | 24 | **159** | 29 | 76 | **66** | 171 | 28 | **116** | **27** | 171 | **689** |
| 07:45 AM | **33** | 74 | **10** | 117 | 23 | 74 | 29 | 126 | **31** | **98** | 56 | **185** | **43** | 113 | 21 | **177** | 605 |
| 08:00 AM | 17 | 22 | 5 | 44 | 16 | 57 | **36** | 109 | 27 | 76 | 26 | 129 | 6 | 69 | 6 | 81 | 363 |
| Total Volume | 109 | 387 | 27 | 523 | 131 | 305 | 114 | 550 | 104 | 313 | 167 | 584 | 96 | 383 | 76 | 555 | 2212 |
| % App. Total | 20.8 | 74 | 5.2 | | 23.8 | 55.5 | 20.7 | | 17.8 | 53.6 | 28.6 | | 17.3 | 69 | 13.7 | | |
| PHF | .826 | .641 | .675 | .695 | .537 | .733 | .792 | .865 | .839 | .798 | .633 | .789 | .558 | .825 | .704 | .784 | .803 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of West Covina
N/S: Orange Avenue
E/W: Merced Avenue
Weather: Clear

File Name : 03_WCO_Orange_Merced AM
Site Code : 04119728
Start Date : 10/22/2019
Page No : 2




Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 07:00 AM | | | | 07:00 AM | | | | 07:15 AM | | | | 07:15 AM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | 16 | 83 | 8 | 107 | 26 | 60 | 25 | 111 | 17 | 63 | 19 | 99 | 19 | 85 | 22 | 126 |
| +15 mins. | 31 | 140 | 3 | 174 | **61** | 70 | 25 | 156 | 29 | 76 | **66** | 171 | 28 | **116** | **27** | 171 |
| +30 mins. | 28 | **151** | 9 | **188** | 31 | **104** | 24 | **159** | **31** | **98** | 56 | **185** | **43** | 113 | 21 | **177** |
| +45 mins. | **33** | 74 | **10** | 117 | 23 | 74 | **29** | 126 | 27 | 76 | 26 | 129 | 6 | 69 | 6 | 81 |
| Total Volume | 108 | 448 | 30 | 586 | 141 | 308 | 103 | 552 | 104 | 313 | 167 | 584 | 96 | 383 | 76 | 555 |
| % App. Total | 18.4 | 76.5 | 5.1 | | 25.5 | 55.8 | 18.7 | | 17.8 | 53.6 | 28.6 | | 17.3 | 69 | 13.7 | |
| PHF | .818 | .742 | .750 | .779 | .578 | .740 | .888 | .868 | .839 | .798 | .633 | .789 | .558 | .825 | .704 | .784 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of West Covina
N/S: Orange Avenue
E/W: Merced Avenue
Weather: Clear

File Name : 03_WCO_Orange_Merced PM
Site Code : 04119728
Start Date : 10/22/2019
Page No : 1

Groups Printed- Total Volume

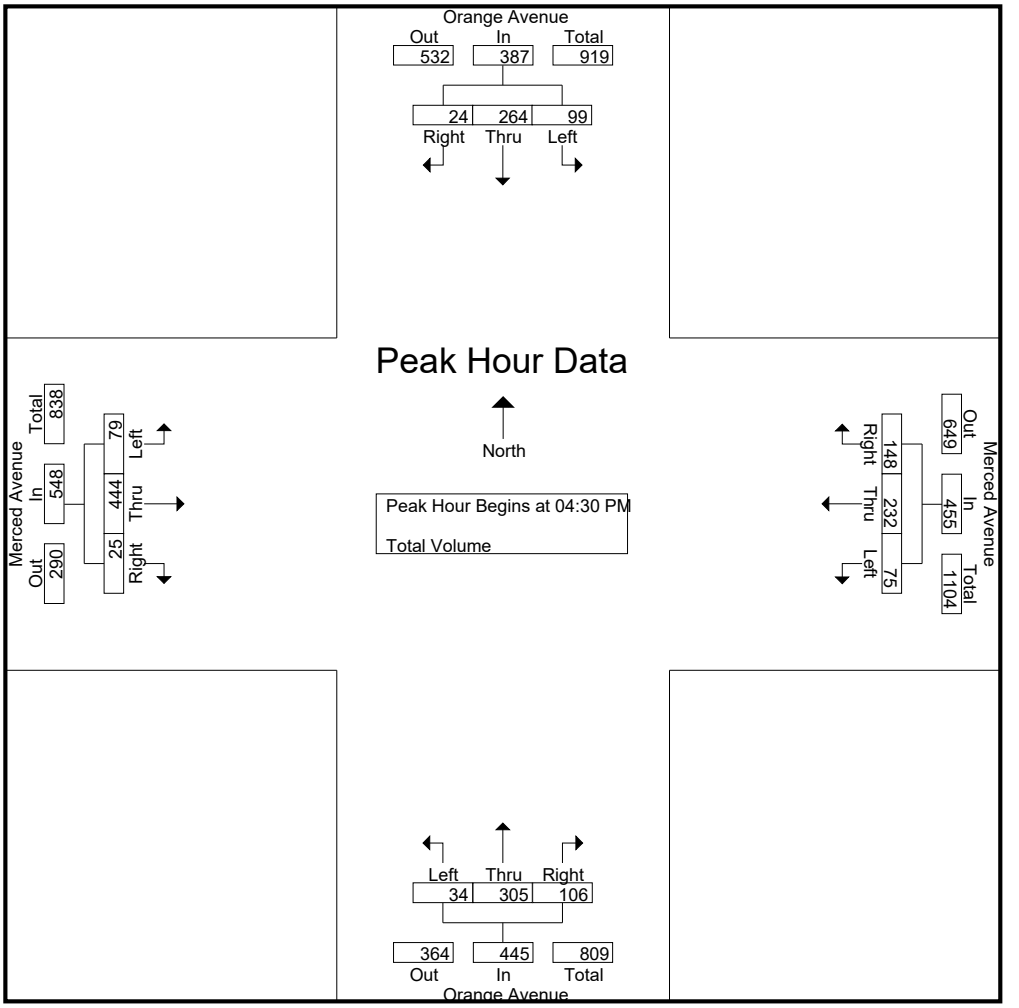
| | Orange Avenue Southbound | | | | Merced Avenue Westbound | | | | Orange Avenue Northbound | | | | Merced Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| 04:00 PM | 21 | 68 | 4 | 93 | 12 | 56 | 47 | 115 | 5 | 59 | 24 | 88 | 23 | 95 | 5 | 123 | 419 |
| 04:15 PM | 15 | 66 | 5 | 86 | 20 | 43 | 33 | 96 | 5 | 64 | 20 | 89 | 22 | 104 | 5 | 131 | 402 |
| 04:30 PM | 27 | 65 | 6 | 98 | 15 | 55 | 27 | 97 | 12 | 76 | 32 | 120 | 32 | 109 | 7 | 148 | 463 |
| 04:45 PM | 19 | 63 | 5 | 87 | 20 | 67 | 37 | 124 | 9 | 74 | 32 | 115 | 15 | 100 | 6 | 121 | 447 |
| Total | 82 | 262 | 20 | 364 | 67 | 221 | 144 | 432 | 31 | 273 | 108 | 412 | 92 | 408 | 23 | 523 | 1731 |
| | | | | | | | | | | | | | | | | | |
| 05:00 PM | 26 | 70 | 6 | 102 | 18 | 62 | 52 | 132 | 5 | 76 | 18 | 99 | 16 | 131 | 6 | 153 | 486 |
| 05:15 PM | 27 | 66 | 7 | 100 | 22 | 48 | 32 | 102 | 8 | 79 | 24 | 111 | 16 | 104 | 6 | 126 | 439 |
| 05:30 PM | 26 | 55 | 2 | 83 | 17 | 45 | 21 | 83 | 9 | 67 | 24 | 100 | 8 | 95 | 3 | 106 | 372 |
| 05:45 PM | 30 | 52 | 13 | 95 | 12 | 47 | 22 | 81 | 6 | 69 | 32 | 107 | 13 | 126 | 8 | 147 | 430 |
| Total | 109 | 243 | 28 | 380 | 69 | 202 | 127 | 398 | 28 | 291 | 98 | 417 | 53 | 456 | 23 | 532 | 1727 |
| | | | | | | | | | | | | | | | | | |
| Grand Total | 191 | 505 | 48 | 744 | 136 | 423 | 271 | 830 | 59 | 564 | 206 | 829 | 145 | 864 | 46 | 1055 | 3458 |
| Apprch % | 25.7 | 67.9 | 6.5 | | 16.4 | 51 | 32.7 | | 7.1 | 68 | 24.8 | | 13.7 | 81.9 | 4.4 | | |
| Total % | 5.5 | 14.6 | 1.4 | 21.5 | 3.9 | 12.2 | 7.8 | 24 | 1.7 | 16.3 | 6 | 24 | 4.2 | 25 | 1.3 | 30.5 | |

| | Orange Avenue Southbound | | | | Merced Avenue Westbound | | | | Orange Avenue Northbound | | | | Merced Avenue Eastbound | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Int. Total |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:30 PM | | | | | | | | | | | | | | | | | |
| 04:30 PM | **27** | 65 | 6 | 98 | 15 | 55 | 27 | 97 | **12** | 76 | **32** | **120** | **32** | 109 | **7** | 148 | 463 |
| 04:45 PM | 19 | 63 | 5 | 87 | 20 | **67** | 37 | 124 | 9 | 74 | 32 | 115 | 15 | 100 | 6 | 121 | 447 |
| 05:00 PM | 26 | **70** | 6 | **102** | 18 | 62 | **52** | **132** | 5 | 76 | 18 | 99 | 16 | **131** | 6 | **153** | **486** |
| 05:15 PM | 27 | 66 | **7** | 100 | **22** | 48 | 32 | 102 | 8 | **79** | 24 | 111 | 16 | 104 | 6 | 126 | 439 |
| Total Volume | 99 | 264 | 24 | 387 | 75 | 232 | 148 | 455 | 34 | 305 | 106 | 445 | 79 | 444 | 25 | 548 | 1835 |
| % App. Total | 25.6 | 68.2 | 6.2 | | 16.5 | 51 | 32.5 | | 7.6 | 68.5 | 23.8 | | 14.4 | 81 | 4.6 | | |
| PHF | .917 | .943 | .857 | .949 | .852 | .866 | .712 | .862 | .708 | .965 | .828 | .927 | .617 | .847 | .893 | .895 | .944 |

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of West Covina
N/S: Orange Avenue
E/W: Merced Avenue
Weather: Clear

File Name : 03_WCO_Orange_Merced PM
Site Code : 04119728
Start Date : 10/22/2019
Page No : 2




Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

| | 04:30 PM | | | | 04:30 PM | | | | 04:30 PM | | | | 04:15 PM | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| +0 mins. | **27** | 65 | 6 | 98 | 15 | 55 | 27 | 97 | **12** | 76 | **32** | **120** | 22 | 104 | 5 | 131 |
| +15 mins. | 19 | 63 | 5 | 87 | 20 | **67** | 37 | 124 | 9 | 74 | 32 | 115 | **32** | 109 | **7** | 148 |
| +30 mins. | 26 | **70** | 6 | **102** | 18 | 62 | **52** | **132** | 5 | 76 | 18 | 99 | 15 | 100 | 6 | 121 |
| +45 mins. | 27 | 66 | **7** | 100 | **22** | 48 | 32 | 102 | 8 | **79** | 24 | 111 | 16 | **131** | 6 | **153** |
| Total Volume | 99 | 264 | 24 | 387 | 75 | 232 | 148 | 455 | 34 | 305 | 106 | 445 | 85 | 444 | 24 | 553 |
| % App. Total | 25.6 | 68.2 | 6.2 | | 16.5 | 51 | 32.5 | | 7.6 | 68.5 | 23.8 | | 15.4 | 80.3 | 4.3 | |
| PHF | .917 | .943 | .857 | .949 | .852 | .866 | .712 | .862 | .708 | .965 | .828 | .927 | .664 | .847 | .857 | .904 |

**ATTACHMENT E-**
DRIVEWAY QUEUING ANALYSIS

**Intersection Level Of Service Report**
**Intersection 35: South Driveway**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 16.2 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 1 hour | Volume to Capacity (v/c): | 0.021 |

**Intersection Setup**

| Name | | | Merced Avenue | | Merced Avenue | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Thru | Right | Left | Thru |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 30.00 | | 40.00 | | 40.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | | | Merced Avenue | | Merced Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 555 | 0 | 0 | 436 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0100 | 1.0100 | 1.0100 | 1.0100 | 1.0100 | 1.0100 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 7 | 5 | 0 | 2 | 2 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 7 | 5 | 561 | 2 | 2 | 440 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 2 | 1 | 140 | 1 | 1 | 110 |
| Total Analysis Volume [veh/h] | 7 | 5 | 561 | 2 | 2 | 440 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| V/C, Movement V/C Ratio | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 16.21 | 10.28 | 0.00 | 0.00 | 8.59 | 0.00 |
| Movement LOS | C | B | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.09 | 0.09 | 0.00 | 0.00 | 0.01 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 2.18 | 2.18 | 0.00 | 0.00 | 0.15 | 0.07 |
| d_A, Approach Delay [s/veh] | 13.74 | | 0.00 | | 0.04 | |
| Approach LOS | B | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.18 | | | | | |
| Intersection LOS | C | | | | | |

**Intersection Level Of Service Report**
**Intersection 35: South Driveway**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 15.3 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 1 hour | Volume to Capacity (v/c): | 0.011 |

**Intersection Setup**

| Name | | | Merced Avenue | | Merced Avenue | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Thru | Right | Left | Thru |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 30.00 | | 40.00 | | 40.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | | | Merced Avenue | | Merced Avenue | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 548 | 0 | 0 | 290 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0400 | 1.0400 | 1.0400 | 1.0400 | 1.0400 | 1.0400 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 4 | 3 | 0 | 8 | 5 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 4 | 3 | 570 | 8 | 5 | 302 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 1 | 1 | 143 | 2 | 1 | 76 |
| Total Analysis Volume [veh/h] | 4 | 3 | 570 | 8 | 5 | 302 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| Priority Scheme | Stop | Free | Free |
|---|---|---|---|
| Flared Lane | No | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

**Movement, Approach, & Intersection Results**

| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 15.33 | 10.21 | 0.00 | 0.00 | 8.65 | 0.00 |
| Movement LOS | C | B | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.05 | 0.05 | 0.00 | 0.00 | 0.02 | 0.01 |
| 95th-Percentile Queue Length [ft/ln] | 1.19 | 1.19 | 0.00 | 0.00 | 0.38 | 0.19 |
| d_A, Approach Delay [s/veh] | 13.14 | | 0.00 | | 0.14 | |
| Approach LOS | B | | A | | A | |
| d_I, Intersection Delay [s/veh] | 0.15 | | | | | |
| Intersection LOS | C | | | | | |

**Intersection Level Of Service Report**
**Intersection 3: Orange Ave and W Merced Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 21.5 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 1 hour | Volume to Capacity (v/c): | 0.522 |

**Intersection Setup**

| Name | Orange Avenue | | | Orange Avenue | | | Merced Avenue | | | Merced Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 119.00 | 100.00 | 100.00 | 97.00 | 100.00 | 100.00 | 110.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 40.00 | | | 40.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Orange Avenue | | | Orange Avenue | | | Merced Avenue | | | Merced Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 104 | 313 | 167 | 109 | 387 | 27 | 96 | 383 | 76 | 131 | 305 | 114 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0100 | 1.0100 | 1.0100 | 1.0100 | 1.0100 | 1.0100 | 1.0100 | 1.0100 | 1.0100 | 1.0100 | 1.0100 | 1.0100 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 2 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 106 | 316 | 169 | 110 | 391 | 28 | 99 | 388 | 79 | 132 | 308 | 115 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 27 | 79 | 42 | 28 | 98 | 7 | 25 | 97 | 20 | 33 | 77 | 29 |
| Total Analysis Volume [veh/h] | 106 | 316 | 169 | 110 | 391 | 28 | 99 | 388 | 79 | 132 | 308 | 115 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | Yes |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fixed time |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 56 | 0 | 0 | 56 | 0 | 0 | 34 | 0 | 0 | 34 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 |
| Pedestrian Clearance [s] | 0 | 17 | 0 | 0 | 17 | 0 | 0 | 10 | 0 | 0 | 10 | 0 |
| Delayed Vehicle Green [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | | No | | | No | |
| Maximum Recall | | No | | | No | | | No | | | No | |
| Pedestrian Recall | | No | | | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 52 | 52 | 52 | 52 | 30 | 30 | 30 | 30 | 30 | 30 |
| g / C, Green / Cycle | 0.58 | 0.58 | 0.58 | 0.58 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 | 0.33 |
| (v / s)_i Volume / Saturation Flow Rate | 0.12 | 0.31 | 0.13 | 0.25 | 0.11 | 0.14 | 0.14 | 0.16 | 0.13 | 0.13 |
| s, saturation flow rate [veh/h] | 871 | 1585 | 819 | 1663 | 868 | 1683 | 1586 | 833 | 1683 | 1530 |
| c, Capacity [veh/h] | 440 | 916 | 383 | 961 | 261 | 561 | 529 | 246 | 561 | 510 |
| d1, Uniform Delay [s] | 17.63 | 11.56 | 20.66 | 10.72 | 31.78 | 23.31 | 23.35 | 34.28 | 23.00 | 23.06 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.30 | 2.21 | 1.89 | 1.45 | 4.19 | 2.38 | 2.57 | 8.38 | 2.06 | 2.33 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.24 | 0.53 | 0.29 | 0.44 | 0.38 | 0.43 | 0.43 | 0.54 | 0.39 | 0.40 |
| d, Delay for Lane Group [s/veh] | 18.93 | 13.76 | 22.56 | 12.17 | 35.97 | 25.69 | 25.92 | 42.66 | 25.07 | 25.40 |
| Lane Group LOS | B | B | C | B | D | C | C | D | C | C |
| Critical Lane Group | No | Yes | No | No | No | No | No | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 1.55 | 5.76 | 1.78 | 4.43 | 2.14 | 4.09 | 3.92 | 3.19 | 3.69 | 3.45 |
| 50th-Percentile Queue Length [ft/ln] | 38.83 | 144.08 | 44.50 | 110.71 | 53.52 | 102.21 | 98.06 | 79.73 | 92.27 | 86.35 |
| 95th-Percentile Queue Length [veh/ln] | 2.80 | 9.70 | 3.20 | 7.88 | 3.85 | 7.36 | 7.06 | 5.74 | 6.64 | 6.22 |
| 95th-Percentile Queue Length [ft/ln] | 69.89 | 242.51 | 80.10 | 196.99 | 96.33 | 183.98 | 176.50 | 143.51 | 166.09 | 155.43 |

**Movement, Approach, & Intersection Results**

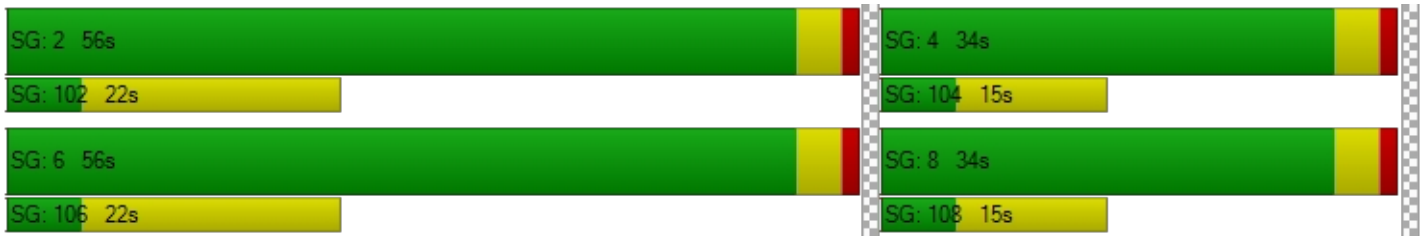
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 18.93 | 13.76 | 13.76 | 22.56 | 12.17 | 12.17 | 35.97 | 25.78 | 25.92 | 42.66 | 25.16 | 25.40 |
| Movement LOS | B | B | B | C | B | B | D | C | C | D | C | C |
| d_A, Approach Delay [s/veh] | 14.69 | | | 14.33 | | | 27.58 | | | 29.37 | | |
| Approach LOS | B | | | B | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 21.50 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.522 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 9.0 | 9.0 | 9.0 | 9.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 36.45 | 36.45 | 36.45 | 36.45 |
| l_p,int, Pedestrian LOS Score for Intersection | 2.582 | 2.541 | 2.714 | 2.776 |
| Crosswalk LOS | B | B | B | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1156 | 1156 | 667 | 667 |
| d_b, Bicycle Delay [s] | 8.02 | 8.02 | 20.00 | 20.00 |
| l_b,int, Bicycle LOS Score for Intersection | 2.535 | 2.432 | 2.027 | 2.017 |
| Bicycle LOS | B | B | B | B |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**
**Intersection 3: Orange Ave and W Merced Ave**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 20.8 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 1 hour | Volume to Capacity (v/c): | 0.464 |

**Intersection Setup**

| Name | Orange Avenue | | | Orange Avenue | | | Merced Avenue | | | Merced Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 119.00 | 100.00 | 100.00 | 97.00 | 100.00 | 100.00 | 110.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 35.00 | | | 40.00 | | | 40.00 | | | 40.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Orange Avenue | | | Orange Avenue | | | Merced Avenue | | | Merced Avenue | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 34 | 305 | 106 | 99 | 264 | 24 | 79 | 444 | 25 | 75 | 232 | 148 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0400 | 1.0400 | 1.0400 | 1.0400 | 1.0400 | 1.0400 | 1.0400 | 1.0400 | 1.0400 | 1.0400 | 1.0400 | 1.0400 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 2 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 1 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 37 | 317 | 110 | 103 | 275 | 27 | 83 | 463 | 27 | 78 | 242 | 154 |
| Peak Hour Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 9 | 79 | 28 | 26 | 69 | 7 | 21 | 116 | 7 | 20 | 61 | 39 |
| Total Analysis Volume [veh/h] | 37 | 317 | 110 | 103 | 275 | 27 | 83 | 463 | 27 | 78 | 242 | 154 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | |
|---|---|
| Located in CBD | Yes |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fixed time |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 10.00 |

**Phasing & Timing**

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 |
| Maximum Green [s] | 0 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 | 0 | 30 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 57 | 0 | 0 | 57 | 0 | 0 | 33 | 0 | 0 | 33 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 |
| Pedestrian Clearance [s] | 0 | 17 | 0 | 0 | 17 | 0 | 0 | 10 | 0 | 0 | 10 | 0 |
| Delayed Vehicle Green [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | | No | | | No | |
| Maximum Recall | | No | | | No | | | No | | | No | |
| Pedestrian Recall | | No | | | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Exclusive Pedestrian Phase**

| | |
|---|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group | L | C | L | C | L | C | C | L | C | C |
|---|---|---|---|---|---|---|---|---|---|---|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 2.00 | 0.00 | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 53 | 53 | 53 | 53 | 29 | 29 | 29 | 29 | 29 | 29 |
| g / C, Green / Cycle | 0.59 | 0.59 | 0.59 | 0.59 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 |
| (v / s)_i Volume / Saturation Flow Rate | 0.04 | 0.27 | 0.12 | 0.18 | 0.09 | 0.15 | 0.15 | 0.10 | 0.12 | 0.13 |
| s, saturation flow rate [veh/h] | 969 | 1610 | 864 | 1657 | 889 | 1683 | 1651 | 816 | 1683 | 1470 |
| c, Capacity [veh/h] | 540 | 948 | 442 | 976 | 258 | 542 | 532 | 229 | 542 | 474 |
| d1, Uniform Delay [s] | 12.89 | 10.35 | 17.29 | 9.30 | 31.71 | 24.23 | 24.24 | 33.21 | 23.59 | 23.70 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.24 | 1.55 | 1.24 | 0.83 | 3.29 | 2.77 | 2.84 | 4.04 | 2.06 | 2.49 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.07 | 0.45 | 0.23 | 0.31 | 0.32 | 0.46 | 0.46 | 0.34 | 0.38 | 0.40 |
| d, Delay for Lane Group [s/veh] | 13.14 | 11.90 | 18.53 | 10.13 | 35.00 | 27.00 | 27.08 | 37.25 | 25.65 | 26.20 |
| Lane Group LOS | B | B | B | B | C | C | C | D | C | C |
| Critical Lane Group | No | Yes | No | No | No | No | Yes | No | No | No |
| 50th-Percentile Queue Length [veh/ln] | 0.42 | 4.57 | 1.46 | 2.79 | 1.76 | 4.36 | 4.30 | 1.73 | 3.54 | 3.26 |
| 50th-Percentile Queue Length [ft/ln] | 10.55 | 114.36 | 36.56 | 69.68 | 43.99 | 108.89 | 107.43 | 43.27 | 88.50 | 81.52 |
| 95th-Percentile Queue Length [veh/ln] | 0.76 | 8.08 | 2.63 | 5.02 | 3.17 | 7.78 | 7.70 | 3.12 | 6.37 | 5.87 |
| 95th-Percentile Queue Length [ft/ln] | 18.99 | 202.05 | 65.81 | 125.42 | 79.19 | 194.46 | 192.42 | 77.89 | 159.31 | 146.74 |

**Movement, Approach, & Intersection Results**

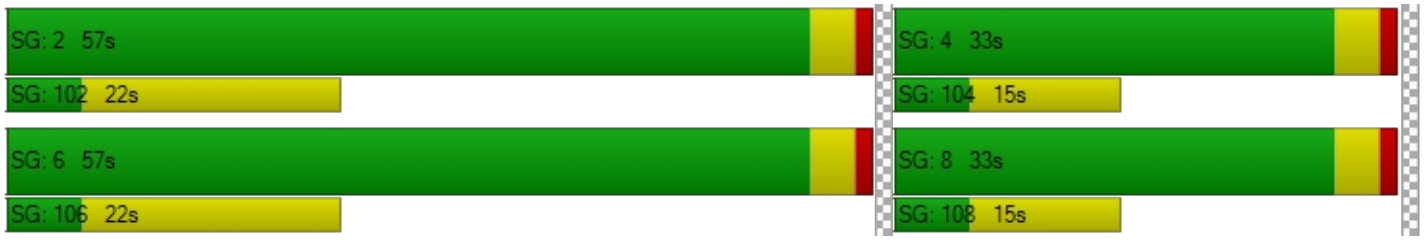
| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 13.14 | 11.90 | 11.90 | 18.53 | 10.13 | 10.13 | 35.00 | 27.04 | 27.08 | 37.25 | 25.73 | 26.20 |
| Movement LOS | B | B | B | B | B | B | C | C | C | D | C | C |
| d_A, Approach Delay [s/veh] | 12.00 | | | 12.26 | | | 28.19 | | | 27.77 | | |
| Approach LOS | B | | | B | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 20.80 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.464 | | | | | | | | | | | |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 9.0 | 9.0 | 9.0 | 9.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 36.45 | 36.45 | 36.45 | 36.45 |
| l_p,int, Pedestrian LOS Score for Intersection | 2.373 | 2.475 | 2.583 | 2.747 |
| Crosswalk LOS | B | B | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1178 | 1178 | 644 | 644 |
| d_b, Bicycle Delay [s] | 7.61 | 7.61 | 20.67 | 20.67 |
| l_b,int, Bicycle LOS Score for Intersection | 2.325 | 2.228 | 2.032 | 1.951 |
| Bicycle LOS | B | B | B | A |

## Sequence

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

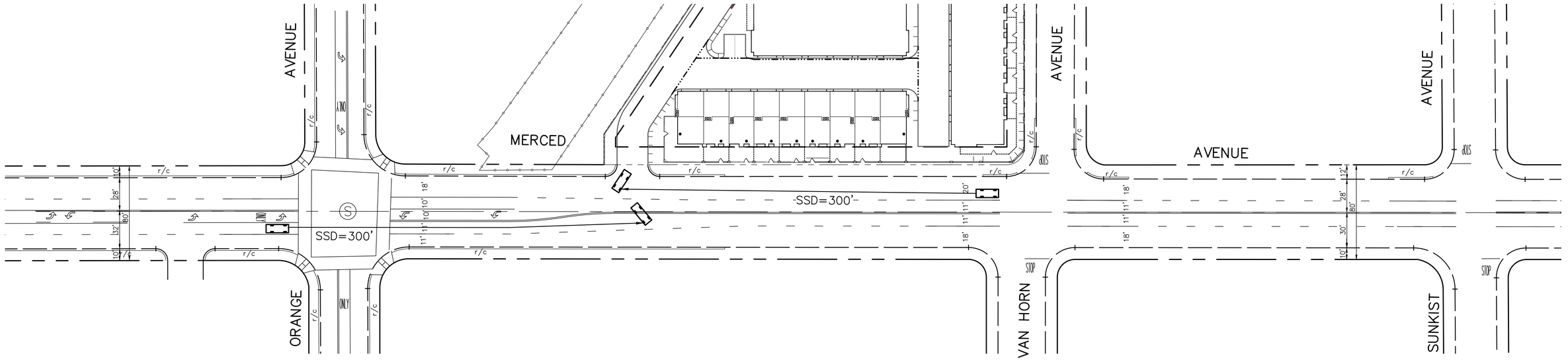


**ATTACHMENT F-**
DRIVEWAY SITE DISTANCE DRAWINGS

# STOPPING SIGHT DISTANCE

| DESIGN SPEED (MPH) | STOPPING SIGHT DISTANCE (FT) |
|---|---|
| 25 | 150 |
| 30 | 200 |
| 35 | 250 |
| 40 | 300 |
| 45 | 360 |

STOPPING SIGHT DISTANCE IS BASED ON TABLE 201.1 "SIGHT DISTANCE STANDARDS" OF THE CALTRANS HIGHWAY DESIGN MANUAL (7TH EDITION).





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40' 20' 0 20' 40'
1"=40' GRAPHIC SCALE

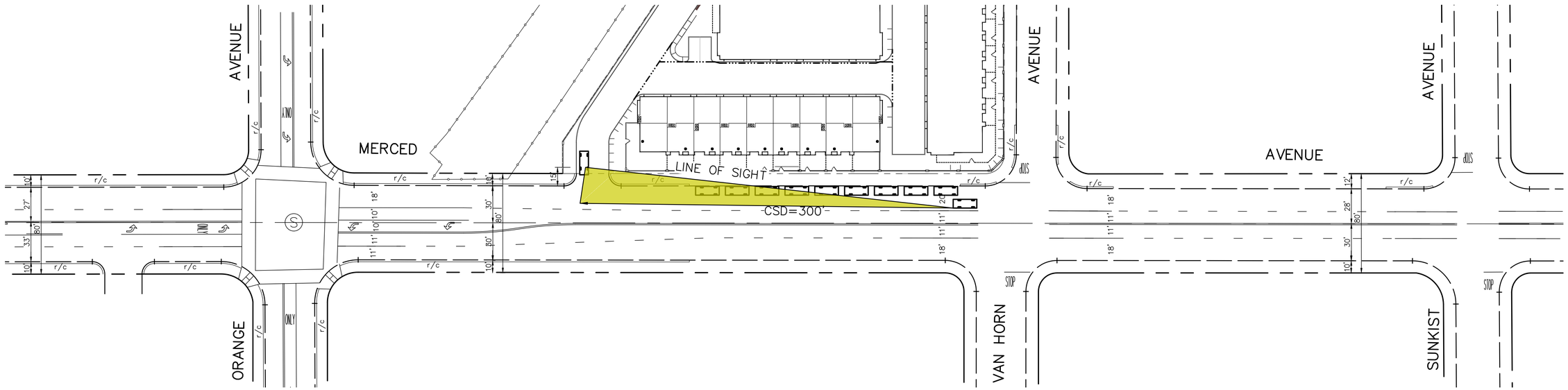
**ATTACHMENT A**

**STOPPING SIGHT DISTANCE**
**MERCED AVENUE**
**SOUTH DRIVEWAY**

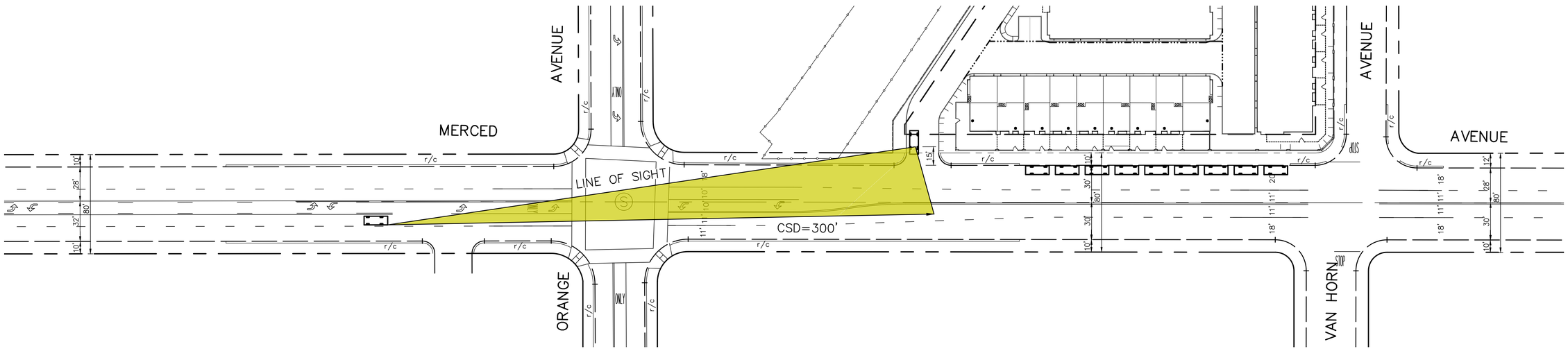
# MINIMUM CORNER SIGHT DISTANCE

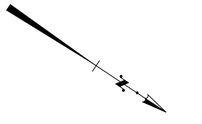
PER INDEX 405.1(2)(c), THE MINIMUM CORNER SIGHT DISTANCE SHALL BE EQUAL TO THE STOPPING SIGHT DISTANCE AS GIVEN IN TABLE 201.1. SEE INDEX 405.1(2)(a) FOR SETBACK REQUIREMENTS.

RIGHT TURN MANEUVER




LEFT TURN MANEUVER





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**ATTACHMENT C**

**MINIMUM CORNER SIGHT DISTANCE**
**MERCED AVENUE**
**SOUTH DRIVEWAY**