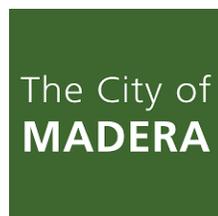


Crown Tozer Subdivision Tentative Subdivision Map (TSM) 2020-01

Initial Study / Negative Declaration

January 2021

Prepared for:



Planning Department
205 W. 4th Street
Madera, CA 93637

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Appendix A: CalEEMod Output Files

Chapter 1 Introduction

Provost & Pritchard Consulting Group has prepared this Initial Study/Negative Declaration (IS/ND) on behalf of the City of Madera to address the environmental effects of the proposed Crown Tozer Subdivision (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et. seq. The City of Madera is the CEQA lead agency for this Project.

The site and the proposed Project are described in detail in [Chapter 2 Project Description](#).

1.1 Regulatory Information

An Initial Study (IS) is a document prepared by a lead agency to determine whether a project may have a significant effect on the environment. In accordance with California Code of Regulations Title 14 (Chapter 3, Section 15000, *et seq.*)-- also known as the CEQA Guidelines-- Section 15064(a)(1) states that an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the proposed project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant levels. A negative declaration (ND) may be prepared instead if the lead agency finds that there is *no substantial* evidence in light of the whole record that the project may have a significant effect on the environment. An ND is a written statement describing the reasons why a proposed project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, an ND or *mitigated* ND shall be prepared for a project subject to CEQA when either:

- a) *The IS shows there is no substantial evidence, in light of the whole record before the agency, that the proposed project may have a significant effect on the environment, or*
- b) *The IS identified potentially significant effects, but:*
 1. *Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed Mitigated ND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and*
 2. *There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.*

1.2 Document Format

This IS/ND contains four chapters plus appendices. [Chapter 1 Introduction](#) provides an overview of the proposed project and the CEQA process. [Chapter 2 Project Description](#) provides a detailed description of proposed project components. [Chapter 3 Determination](#) identifies the environmental factors potentially affected based on the analyses contained in this IS and includes the Lead Agency's determination based upon those analyses. [Chapter 4 Impact Analysis](#) presents the CEQA checklist and environmental analyses for all impact areas and the mandatory findings of significance. A brief discussion of the reasons why the Project impact is anticipated to be less than significant or why no impacts are expected is included. The CalEEMod Output Files are provided as technical [Appendix A](#) at the end of this document.

Chapter 2 Project Description

2.1 Project Background

2.1.1 Project Title

Crown Tozer Subdivision
Tentative Subdivision Map (TSM) 2020-01

2.1.2 Lead Agency Name and Address

City of Madera
205 W. 4th Street
Madera, CA 93637

2.1.3 Contact Person and Phone Number

Lead Agency Contact

Gary Conte, AICP, Planning Manager
559.661.5430

Applicant Information

Joseph Crown Construction and Development, Inc.
55.275.5200

2.1.4 Study Prepared By

Provost & Pritchard Consulting Group
286 West Cromwell Avenue
Fresno, CA 93711

2.1.5 Project Location

The Project is located in Madera, California on Assessor's Parcel Number 008-180-007 (portion) (see [Figure 2-1](#)) west of Tozer Street and southwest of the future Fig Street alignment (see [Figure 2-2](#)).

2.1.6 Latitude and Longitude

The centroid of the Project area is 36° 57' 52.402" N, 120° 2' 27.236" W.

2.1.7 General Plan Designation

The Project site is planned MD (Medium Density Residential).

2.1.8 Zoning

The Project site is zoned PD(4500) (*Planned Development (One unit for each 4,500 sq. ft. of site area)*).

2.1.9 Description of Project

Project Description

The applicant, Joseph Crown Construction and Development Inc., proposes to subdivide an approximately 11.37-acre site into 63 lots for single-family residential uses. The Project site is a portion of a larger 25.01-acre parcel. A future storm drainage basin is planned on the northwestern 5-acre portion of the parcel, as required by the approved tentative subdivision map located directly to the southeast of the Project site. Three public access points to Fig Street would be constructed, as well as one access point to an approved residential subdivision to the southeast, not yet constructed. Circulation within the subdivision would be provided by public streets. No phasing is proposed.

Construction of the Project would involve grading, paving, building construction, and painting. The Project would require trenching and installation of utilities.

Site access during construction would be via Tozer Street. Principal deliveries to the Project site would include construction equipment, imported earthwork materials, concrete and asphalt materials, building materials, and any additional hardware required to construct the Project. Material and equipment staging areas as well as construction crew parking would be contained on-site. Construction would be limited to the hours of 7 am and 7 pm, Monday through Friday, and 9 am and 5 pm on Saturdays. At this time, no Project construction commencement schedule has been identified. Project construction commencement is subject to securing the permits required for the Project.

Actions Required

The City of Madera has jurisdiction over the review and approval of the Project. The City of Madera Planning Commission would be requested to take action on the following:

- Adoption of Negative Declaration;
- Approval of Tentative Subdivision Map (TSM 2020-01); and
- Approval of a precise plan application.

The City of Madera would also issue the following ministerial permits for the proposed Project if and once the above listed actions are taken:

- Grading Permit;
- Encroachment Permit; and
- Building Permit.

2.1.10 Site and Surrounding Land Uses and Setting

Environmental Setting

The 11.37-acre Project site consists of vacant land. The site elevation is approximately 280 feet above mean sea level and generally slopes towards the west. Soils consist of loam to sandy loam texture with moderate to high infiltration rates and are moderate to well drained. Depth to first encountered groundwater is estimated to be approximately 205 feet. The hydrologic gradient is estimated to trend to the southwest. An unnamed canal is located on the western border of the Project site.

Surrounding Land Uses

The site is bordered to the northwest by a future basin site and an unnamed canal. The site is bordered to the northeast, across the future Fig Street alignment, by vacant land planned for Medium Density Residential. The site is bordered to the southeast by vacant land that is planned Low Density Residential and approved for a single-family residential subdivision (TSM 2019-02). The site is bordered to the southwest by Martin Luther King Middle School.

Table 2-1 Existing Uses, General Plan Designations, and Zone Districts of Surrounding Properties

Direction from Project Site	Existing Use	General Plan Designation	Zone District
Northeast	Vacant	Medium Density Residential	PD(4500)
Southeast	Vacant	Low Density Residential	PD(4500)
Southwest	Martin Luther King Middle School	Other Public & Semi-Public Uses	PF
Northwest	Vacant	Medium Density Residential	PD(4500)
PF – Public Facilities PD(4500) - Planned Development (One unit for each 4,500 sq. ft. of site area)			

2.1.11 Other Public Agencies Whose Approval May Be Required

Other agencies, including but not necessarily limited to the following, may have authority to issue permits prior to Project implementation:

- San Joaquin Valley Air Pollution Control District (SJVAPCD); and
- Regional Water Quality Control Board.

2.1.12 Consultation with California Native American Tribes

Public Resources Code Section 21080.3.1, *et seq.* (codification of AB 52, 2013-14)) requires that a lead agency, within 14 days of determining that it will undertake a project, notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the Project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the Project and inquire whether the Tribe wishes to initiate a request for formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

The City of Madera has not received a request from any California Native American tribes in the geographic area which it is traditionally and culturally affiliated with or that has otherwise requested to be notified about projects in the City of Madera.

Figure 2-1 Vicinity Map

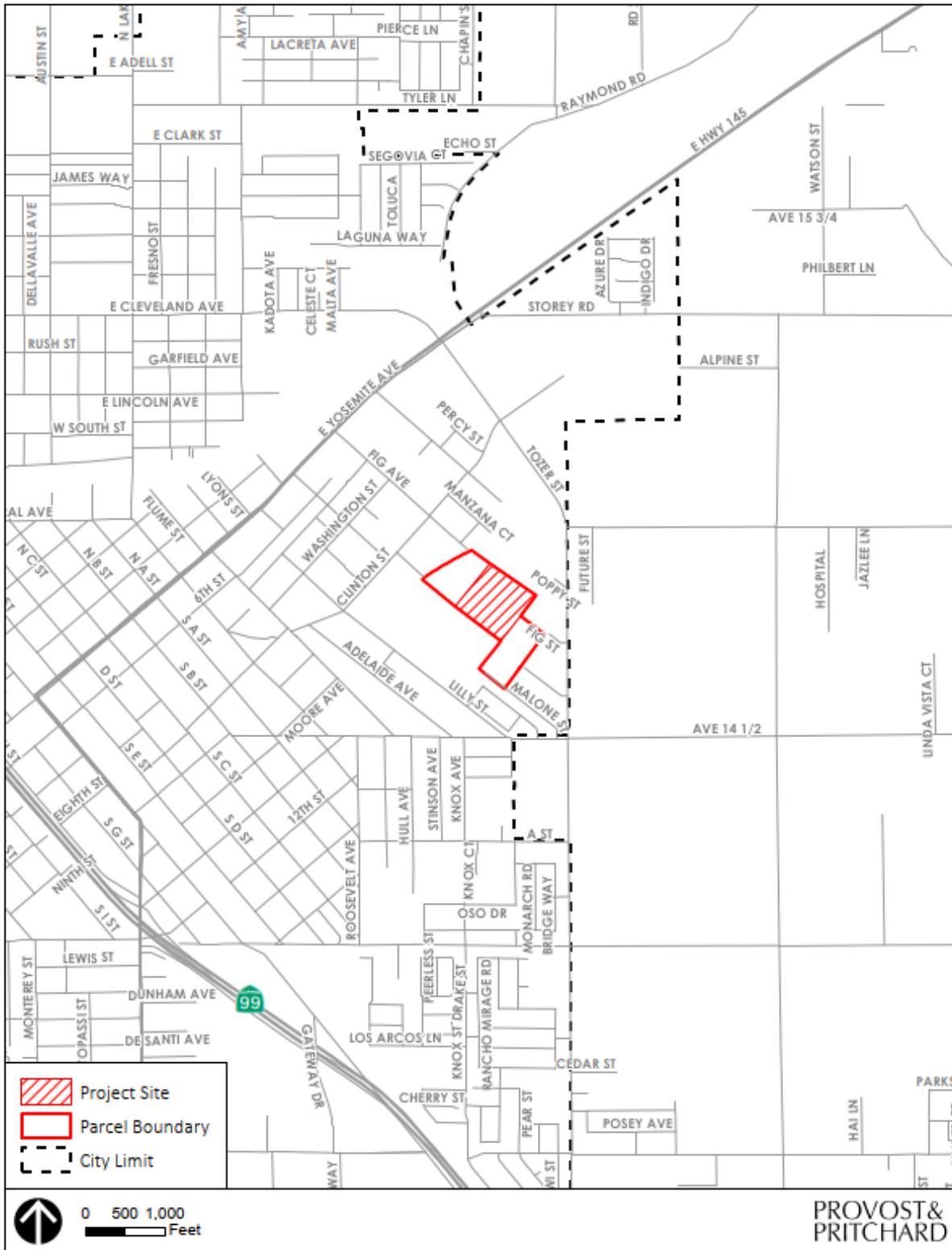
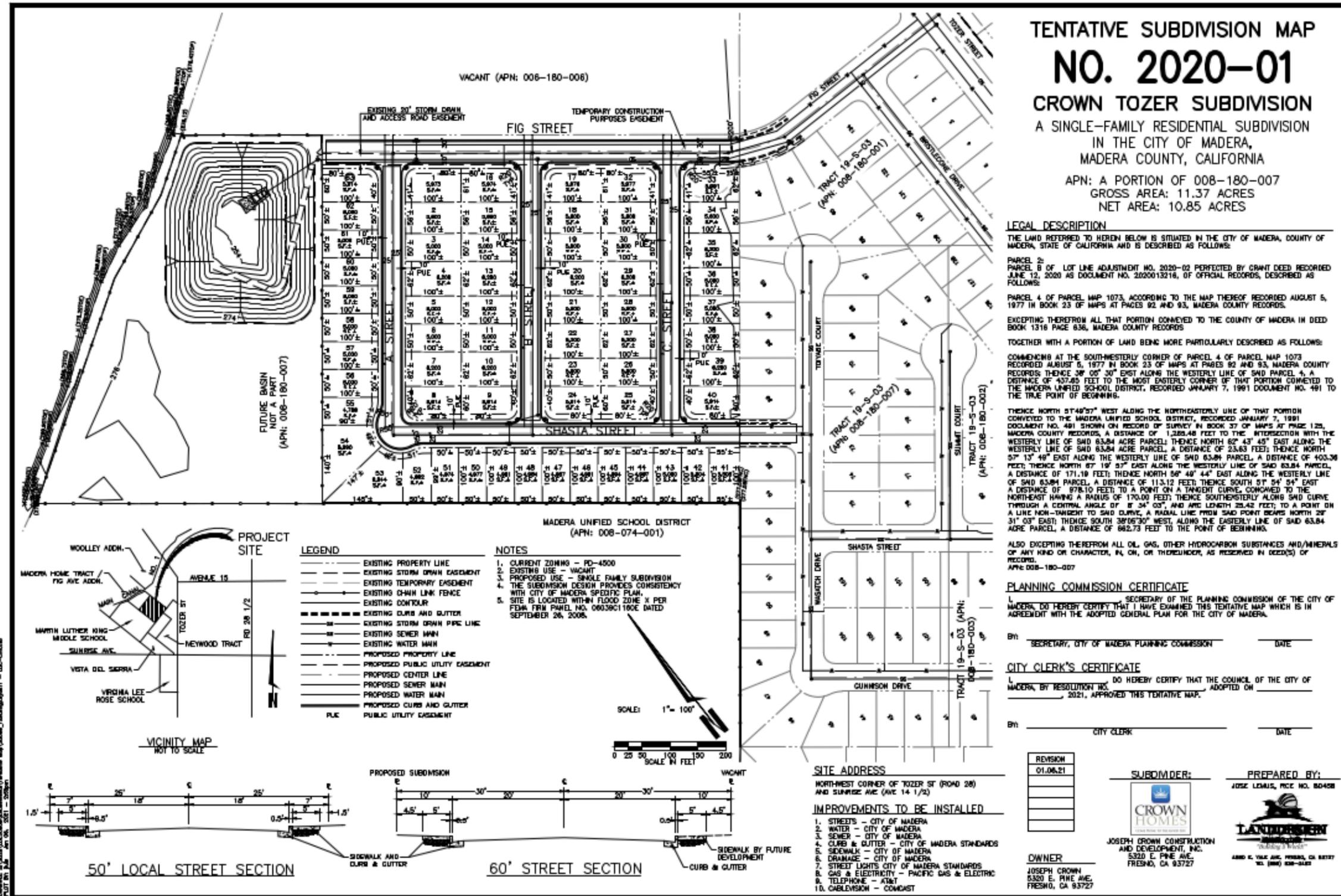


Figure 2-2 Area of Potential Effect



Figure 2-3 Tentative Subdivision Map 2020-01



Chapter 3 Determination

3.1 Environmental Factors Potentially Affected

As indicated by the discussions of existing and baseline conditions, and impact analyses that follows in **Chapter 4**, environmental factors not checked below would have no impacts or less than significant impacts resulting from the Project. Environmental factors that are checked below would have potentially significant impacts resulting from the Project. Mitigation measures are recommended for each of the potentially significant impacts that would reduce the impact to less than significant.

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

The analyses of environmental impacts in **Chapter 4 Impact Analysis** result in an impact statement, which shall have the following meanings.

Potentially Significant Impact. This category is applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less than significant level. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.

Less than Significant with Mitigation Incorporated. This category applies where the incorporation of mitigation measures would reduce an effect from a “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced).

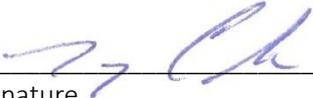
Less Than Significant Impact. This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a project would not create an impact in the specific environmental issue area. “No Impact” answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency, which show that the impact does not apply to the specific Project (e.g., the Project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the Project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

3.2 Determination

On the basis of this initial study:

- 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 impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.



Signature

January 13, 2021

Date

Gary Conte, AICP, Planning Manager

Printed Name/Position

Chapter 4 Impact Analysis

4.1 Aesthetics

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

4.1.1 Environmental Setting

The visual character of the immediate Project vicinity is an urban residential built environment. The Project site is a vacant field that is periodically disced for weed control. The surrounding Project area is largely made up of vacant lots that are zoned for Medium Density Residential and Low Density Residential land uses. To the southwest of the Project site is Martin Luther King Middle School. The primary existing light sources in the Project vicinity are generated from the Middle School with some residential and street lighting sources.

Topography is relatively flat and there are no natural drainages in the immediate area surrounding the Project. The Fresno River, approximately 0.5 miles to the northwest, the San Joaquin River, approximately 9 miles to the southeast, and the foothill region of the Sierra Nevada, approximately 25 miles to the northeast, are the nearest significant topographic reliefs. There are no state or county designated scenic highways or historical buildings or properties present in the Project vicinity.

4.1.2 Impact Assessment

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

No impact. Scenic vistas are generally interpreted as long-range views of a specific scenic feature (e.g., open space, mountain ridges, ocean views). The Project is not located near a scenic vista, nor does the Project provide notable scenic values such as undisturbed open space, prominent landforms, or features. The Project will not result in the obstruction of federal, State, or locally classified scenic areas, historic properties, community landmarks, or formally classified scenic resources, such as a scenic highway, national or State scenic area, or scenic vista. Therefore, there would be *no impact*.

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

No impact. The Project is not located along a State-designated Scenic Highway.¹ Furthermore, there are no notable trees, rock outcroppings, or historical buildings on or near the Project that would be affected, and the Project would not alter long-range views to ridgelines or other natural features. Therefore, there would be *no impact*.

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

Less than significant impact. Construction of the proposed Project would represent a change in the existing visual character of the Project site and its surroundings; however, the Project would not substantially degrade the existing visual character or quality of the site and its surroundings. Nor would the Project conflict with applicable zoning and other regulations governing scenic quality. The Project would have a *less than significant impact* on visual character.

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

Less than significant impact. Development of the site would introduce new sources of light and glare. The site is within an urbanized area which has existing sources of light and glare. Lighting sources within the Project's vicinity provide for traffic safety and security, as well as contributing visually to the developing landscape. Existing light sources within the Project's vicinity currently affect day and nighttime views in the Project area to a degree equal to or greater than the light sources proposed by the Project. Compliance with California Building Code (Title 24, California Code of Regulations) standards would ensure that light and glare impacts from the proposed Project would be *less than significant*.

¹California Department of Transportation website, Officially Designated State Scenic Highways, http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/, accessed December 2020.

4.2 Agriculture and Forestry Resources

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.2.1 Environmental Setting

Pursuant to the California Department of Conservation, the Project site is located on land identified as “Vacant or Disturbed Land”.² Vacant land is defined as an area of open fields that may have been disturbed and do not qualify for an agricultural category. Neither the Project site nor surrounding properties are subject to a Williamson Act contract. The site is designated and zoned for residential uses in both the City’s General Plan and Zoning Code.

² California Department of Conservation, California Important Farmland Finder, <https://maps.conservation.ca.gov/planning/DataViewer/California> Important Farmland: 2016, accessed December 2020.

4.2.2 Impact Assessment

- a) Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No impact. The Project would not convert land classified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency) to non-agricultural use. Therefore, there would be *no impact*.

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

No impact. The Project would not conflict with existing zoning for agricultural use and there are no Williamson Act contracts affecting the Project site or surrounding properties. Therefore, there would be *no impact*.

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

No impact. Neither the Project site nor surrounding properties are defined as forest land (as defined by 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)). The Project site is located on a vacant lot zoned for residential use. Therefore, there would be *no impact*.

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

No impact. The Project site neither contains nor is adjacent to forested lands. Furthermore, the Project site and its adjacent lands are not designated or zoned for timberland or timberland protection. Thus, the Project would not conflict with or result in the loss of forest land or conversion of forest land to a non-forest use. Therefore, there would be *no impact*.

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

No impact. As described above, the Project is located on a vacant lot and is zoned for residential use. As a result, the proposed Project would not introduce changes in the existing environment that would result in the conversion of Farmland to a non-agricultural use or conversion of forest land to a non-forest use. Therefore, there would be *no impact*.

4.3 Air Quality

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.3.1 Environmental Setting

The Project site is located within the San Joaquin Valley Air Basin (SJVAB). The SJVAB, which occupies the southern half of California’s Central Valley, is under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). Other air quality regulatory agencies that share responsibility with regulating SJVAB’s air quality to ensure that all state and federal ambient air quality standards are attained within the SJVAB include the California Air Resources Board (CARB) and the United States Environmental Protection Agency (USEPA). The SJVAPCD, which is responsible for the attainment of state and federal air quality standards in the SJVAB, develops rules, regulations, and policies to comply with applicable state and federal air quality legislation.

The SJVAPCD air quality-related planning documents, rules, and regulations applicable to this Project include:

Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI). The GAMAQI provides assistance in evaluating potential air quality impacts of projects in the SJVAB, by providing guidance on evaluating short-term (construction) and long-term (operational) air emissions. The GAMAQI provides criteria and thresholds for determining whether a project may have a significant adverse air quality impact, specific procedures and modeling protocols for quantifying and analyzing air quality impacts, methods to mitigate air quality impacts, and information for use in air quality assessments and environmental documents. The thresholds of significance are summarized, as follows:

Short-Term Emissions of Particulate Matter (PM₁₀): Construction impacts associated with the proposed Project would be considered significant if the feasible control measures for construction in compliance with Regulation VIII as listed in the SJVAPCD guidelines are not incorporated or implemented, or if Project-generated emissions would exceed 15 tons per year (TPY) or 100 pounds per day.

Short-Term Emissions of Ozone Precursors (ROG and NO_x): Construction impacts associated with the proposed Project would be considered significant if the Project generates emissions of Reactive Organic Gases (ROG) or NO_x that exceeds 10 TPY or 100 pounds per day.

Long-Term Emissions of Particulate Matter (PM₁₀): Operational impacts associated with the proposed Project would be considered significant if the Project generates emissions of PM₁₀ that exceed 15 TPY or 100 pounds per day.

Long-Term Emissions of Ozone Precursors (ROG and NO_x): Operational impacts associated with the proposed Project would be considered significant if the Project generates emissions of ROG or NO_x that exceeds 10 TPY or 100 pounds per day.

Conflict with or Obstruct Implementation of Applicable Air Quality Plan: Due to the region's nonattainment status for ozone, PM_{2.5}, and PM₁₀, if the Project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO_x) or PM₁₀ would exceed the SJVAPCD's significance thresholds, then the Project would be considered to conflict with the attainment plans. In addition, if the Project would result in a change in land use and corresponding increases in vehicle miles traveled, the Project may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

Local Mobile-Source CO Concentrations: Local mobile source impacts associated with the proposed Project would be considered significant if the Project contributes to CO concentrations at receptor locations in excess of the CAAQS (i.e. 9.0 ppm for 8 hours or 20 ppm for 1 hour).

Exposure to toxic air contaminants (TAC) would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 10 in 1 million or would result in a Hazard Index greater than 1.

Odor impacts associated with the proposed Project would be considered significant if the Project has the potential to frequently expose members of the public to objectionable odors.

Rule 2280 Portable Equipment Registration. Portable equipment used at project sites for less than six consecutive months must be registered with the SJVAPCD. The SJVAPCD will issue the registration 30 days after receipt of application.

Rule 8011 General Requirements: Fugitive Dust Emission Sources. Operations, including construction operations, must control fugitive dust emissions in accordance with SJVAPCD Regulation VIII. The SJVAPCD requires the implementation of control measures for fugitive dust emissions. For projects in which construction-related activities would disturb equal to or greater than one (1) acre of surface area, the SJVAPCD recommends that demonstration of receipt of an SJVAPCD approved "Dust Control Plan" or "Construction Notification Form," before issuance of the first grading permit, be made a condition of approval.

Rule 9510 Indirect Source Review. This rule requires project applicants to reduce operational emission of oxides of nitrogen (NO_x) by 33 percent of the project's operational baseline and 50 percent of the project's operational suspended particulate matter less than 10 microns in diameter (PM₁₀) emissions. Projects subject to SJVAPCD's District Rule 9510 are required to submit an Air Impact Assessment (AIA)

application to the SJVAPCD no later than applying for final discretionary approval of a proposed project, and to pay any applicable off-site mitigation fees before issuance of the first building permit.

Air quality is determined by the type and amount (concentration) of contaminants emitted into the atmosphere, the size and topography of the SJVAB, and its meteorological conditions. National and State air quality standards specify the upper limits of concentrations and duration in the ambient air for the following air pollutants: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), suspended particulate matter less than 10 microns in diameter (PM₁₀), suspended particulate matter less than 2.5 microns in diameter (PM_{2.5}), sulfur dioxide (SO₂) and lead (Pb). These pollutants are commonly referred to as “criteria pollutants.” The SJVAPCD also conducts monitoring for two other State standards: sulfates and visibility.

The SJVAPCD, together with the CARB, maintains ambient air quality monitoring stations in the SJVAB. The air quality monitoring station closest to the Project site is the Madera – 28261 Avenue 14 monitoring station. The pollutants monitored at this station are O₃, PM_{2.5}, and PM₁₀. Air quality trends for CO, NO₂, and SO₂ are not monitored at this air quality monitoring station. Madera County – Road 29½, north of Avenue 8 monitoring station monitors NO₂. The nearest station monitoring CO and SO₂ is in Fresno – 3727 North First Street.

The 2017 to 2019 monitoring results from these stations indicate the state 1-hour O₃ standard was exceeded 3 times in 2017, 2 times in 2018, and an unknown number of times 2019. Additionally, the State 8-hour O₃ standard was exceeded 29 times in 2017, 17 times in 2018, and unknown number of times in 2019. Furthermore, the federal 8-hour O₃ standard was exceeded 27 times in 2017, 14 times in 2018 and 10 times in 2019. The state PM₁₀ standard was exceeded 16 times in 2017 and 23 times in 2018. The CO, NO₂, and SO₂ standards were not exceeded in this area during the 3-year period.

The CARB is required to designate areas of the state as attainment, non-attainment, or unclassified for all state standards. An attainment designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A non-attainment designation indicates that a pollutant concentration violated that standard at least once, excluding those occasions when the violation was caused by an exceptional event, as defined in the criteria. An unclassified designation signifies that data does not support either an attainment or non-attainment status. The California Clean Air Act divides the air districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category. The USEPA also designates areas as attainment, non-attainment, or classified. The air quality data are also used to monitor progress in attaining air quality standards.

The CARB has designated the SJVAB as being a severe non-attainment for 1-hour O₃, and non-attainment for 8-hour O₃, PM₁₀, and for PM_{2.5}. The CARB has designated the Air Basin as attainment for NO₂, SO₂, Pb, and as an attainment / unclassified area for CO and all other air contaminants.

The USEPA has designated the SJVAB as being an extreme non-attainment area for 8-hour O₃, and non-attainment for PM_{2.5}. USEPA has designated the SJVAB as attainment / unclassified for CO, NO₂, SO₂ and no designation / classification for PM. There is no federal standard for 1-hour O₃.

There are no stationary sources that generate air quality emissions on the Project site.

Short-term and long-term emissions associated with the Project were calculated using California Emissions Estimator Model (CalEEMod, Version 2016.3.2) based on Project information available. Emissions modeling

includes emissions generated by off-road equipment, haul trucks, and worker commute trips. Emissions were quantified based on anticipated construction schedules provided by the Project applicant. All remaining assumptions were based on the default parameters contained in the model. Modeling assumptions and output files are included in [Appendix A](#).

4.3.2 Impact Assessment

- a) Would the Project conflict with or obstruct implementation of the applicable air quality plan?
- b) Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?

Less than significant impact. The proposed Project would not exceed established emission thresholds (see [Table 4-1](#) and [Table 4-2](#)); therefore, the Project would not conflict with or obstruct implementation of the applicable air quality plan and the impacts would be *less than significant*.

Table 4-1. Unmitigated Short-Term Construction-Generated Emissions of Criteria Air Pollutants

Source	Annual Emissions (in Tons)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Maximum Annual Proposed Project Emissions ¹	0.4314	2.8050	2.486	0.0045	0.2206	0.1608
<i>SJVAPCD Significance Thresholds</i>	10	10	100	27	15	15
Exceed Thresholds?	No	No	No	No	No	No

1. Emissions were quantified using CalEEMod Output Files Version 2016.3.2. Refer to [Appendix A](#) for modeling results and assumptions. Totals may not sum due to rounding.

A quantified analysis of the Project’s long-term operational emissions was also conducted using CalEEMod version 2016.3.2 based on information available. According to the CalEEMod results, the Project would have a *less than significant impact* on air quality when compared to the significance thresholds of annual criteria pollutant emissions (see [Table 4-2](#)) for long-term operational activities.

Table 4-2. Unmitigated Long-Term Operational Emissions of Criteria Air Pollutants

Source	Annual Emissions (in Tons)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Maximum Annual Proposed Project Emissions ¹	0.6972	0.7398	2.7606	0.0071	0.6004	0.1721
<i>SJVAPCD Significance Thresholds</i>	10	10	100	27	15	15
Exceed Thresholds?	No	No	No	No	No	No

1. Emissions were quantified using CalEEMod Output Files Version 2016.3.2. Refer to [Appendix A](#) for modeling results and assumptions. Totals may not sum due to rounding.

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

Less than significant impact. The Air District has established a screening threshold of 100 pounds per day to determine whether or not a Health Risk Assessment would be necessary to analyze the health impacts of a project. The Project would not expose sensitive receptors to substantial pollutant concentrations. The nearest sensitive receptors to the Project site are single-family homes to the south and west. Martin Luther King Middle School, Virginia Lee Rose School, and the Madera Rehabilitation and Nursing Center are located within one-half mile of the Project site. No hospitals or other sensitive receptors are within a one-half mile of the Project site. While some sensitive receptor areas can be found near the Project site, the Project would not exceed the established threshold. Therefore, there would be a **less than significant impact**.

Table 4-3. Maximum Daily Unmitigated Emissions of Criteria Air Pollutants

Source	Daily Emissions (in Pounds)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Construction – Summer	35.7051	46.4489	31.5626	0.0637	5.5335	3.2739
Construction – Winter	35.7036	45.4584	31.4628	0.0635	5.5335	3.2739
Operations – Winter	3.8854	4.7263	18.4414	0.0419	3.5278	1.0424
Operations - Summer	4.3000	4.5120	19.7180	0.0459	3.5276	1.0422
<i>SJVAPCD Significance Thresholds</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
Exceed Thresholds?	No	No	No	No	No	No

1. Emissions were quantified using CalEEMod Output Files Version 2016.3.2. Refer to **Appendix A** for modeling results and assumptions. Totals may not sum due to rounding.

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

Less than significant impact. During construction activities, construction equipment exhaust and application of asphalt, structural coating and other construction applications would temporarily emit odors. However, construction nor operation of the Project is anticipated to generate substantial odors that would affect a substantial number of people. Therefore, the Project would result in a **less than significant impact**.

4.4 Biological Resources

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.4.1 Environmental Setting

Neither the City of Madera General Plan Update nor its Environmental Impact Report (EIR) identified threatened or endangered species in the Project area.

The Project site is void of any natural features, such as seasonal drainages, riparian or wetland habitat, rock outcroppings, or other native habitat or associated species. No shrubs or trees are present on or immediately adjacent to the Project site. The property is periodically disced for weed control. No wetlands were reported or observed on the site.³ Development of the site would not conflict with any local policies or ordinances protecting biological resources, or conflict with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or State habitat conservation plan.

4.4.2 Impact Assessment

- a) **Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

Less than significant impact. The Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Therefore, the Project would result in a **less than significant impact**.

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

No impact. The Project site and its surroundings are absent of any riparian habitat, sensitive natural communities of special concern or of any critical habitat designated by the California Department Fish and Wildlife or by the United States Fish and Wildlife Service as critical habitat essential for the preservation and recovery of state and/or federally listed plant or animal species. The Project would not result in any direct or indirect impacts to riparian corridor, stream channel, or potentially viable habitat in which sensitive species could be found. Therefore, this Project would have **no impact**.

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

No impact. Project site soils are composed of loam to sandy loam texture. Soils have moderately coarse textures, moderate to high infiltration rates, and are moderate to well drained. The Project site is void of any vegetation and does not have the hydrology necessary to create wetlands. Further, no wetlands have been reported or observed on site. Therefore, the proposed Project would have **no impact** on federally protected wetlands as defined by Section 404 of the Clean Water Act.

³ Natural Wetlands Inventory, <https://www.fws.gov/wetlands/data/mapper.html>, accessed December 2020.

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

No impact. The Project site does not present any features of a river, creek, stream, or other form of water course, nor does the Project site include features of a wildlife corridor. The urban surroundings, busy roads, and domestic animals near the Project would be a deterrent to natural wildlife. Therefore, the Project would have **no impact** on the movement of any native resident or migratory fish or wildlife species or on an established native resident or migratory wildlife corridor.

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

No impact. There are no trees or vegetation within the Project site. The Project would not conflict with any applicable local policies or ordinances protecting biological resources and the City of Madera does not have a tree preservation ordinance. Therefore, this Project would have **no impact**.

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

No impact. Neither the Project site nor the immediate area surrounding the Project site are subject to an adopted or proposed local, regional, or state adopted habitat conservation plan (HCP), or similar types of conservation plans. Therefore, the Project would not conflict with the provisions of an adopted or proposed HCP or similar approved local, regional, or state habitat conservation plan. As such, the Project would have **no impact**.

4.5 Cultural Resources

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

4.5.1 Environmental Setting

Based on the City of Madera General Plan Update and its Environmental Impact Report (EIR) dated April 29, 2009, no known recorded archeological sites or historic properties are within or in the immediate vicinity of the Project site. The EIR also did not indicate the presence of Native American traditional cultural place(s) within or adjacent to the Project site.

4.5.2 Impact Assessment

a) **Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?**

No impact. Based on the City of Madera General Plan Update EIR, the Project site and its surroundings are absent of any known historic properties. The Project is devoid of structures. No historic properties would be affected by the proposed Project. Therefore, the Project would result in *no impact*.

b) **Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?**

Less than significant impact. While no known archaeological deposits are present on the Project site, it is possible that unknown buried archaeological materials could be found during ground disturbing activities, including unrecorded Native American prehistoric archaeological materials. If such resources were discovered, the impact to archeological resources could be significant. General Plan Action Item HC-9.2 requires a condition of approval on all discretionary projects that the Planning Department be notified immediately if any prehistoric, archaeological, or fossil artifact or resource is uncovered during construction. All construction must stop and an archaeologist that meets the Secretary of the Interior’s Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to evaluate the finds and recommend appropriate action. Implementation of the required condition, in accordance with the provisions of Public Resources Code Section 21083.2, would reduce the impact to *less than significant*.

c) **Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?**

Less than significant impact. There are no known formal cemeteries or known interments to have occurred on the Project site. Though unlikely, there is the possibility human remains may be present beneath the Project site. Should human remains be discovered during ground disturbing construction activities, such discovery could be considered significant. Any human remain encountered during ground disturbing activities are required to be treated in accordance with California Code of Regulations Section 15064.5(e), Public Resources Code Section 5097.98, and California Health and Safety Code Section 7050.5, which state the mandated procedures of conduct following discovery of human remains. Additionally, General Plan Action Item HC-9.2 requires a condition of approval on all discretionary projects that all construction must stop if any human remains are uncovered, and the County Coroner must be notified according to Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the procedures outlined in CEQA Section 15064.5 (d) and (e) shall be followed. If human remains are determined to be of possible Native American descent, the Coroner shall notify the Native American Heritage Commission who will appoint a "Most Likely Descendent" and the local Native American Tribe representative to identify and preserve Native American remains, burial, and cultural artifacts. Implementation of the required condition and above-referenced sections would reduce the impact to ***less than significant***.

4.6 Energy

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

4.6.1 Environmental Setting

The Project site is currently devoid of any energy-consuming equipment. The site is periodically disced for weeds.

4.6.2 Impact Assessment

- a) **Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?**

Less than significant impact. Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. For heavy-duty construction equipment, horsepower and load factor were assumed using default data from the CalEEMod model. Fuel use associated with construction vehicle trips generated by the Project was also estimated; trips include construction worker trips, haul trucks trips for material transport, and vendor trips for construction material deliveries. Fuel use from these vehicles traveling to the Project was based on (1) the projected number of trips the Project would generate (CalEEMod default values), (2) default average trip distance by land use in CalEEMod, and (3) fuel efficiencies estimated in the ARB 2017 Emissions Factors model (EMFAC2017) mobile source emission model.

Construction is estimated to consume a total of 49,916 gallons of diesel fuel and 3,196 gallons of gasoline fuel.⁴ California Code of Regulations Title 13, Motor Vehicles, Section 2449(d)(2), Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel because of unproductive idling of construction equipment. In addition, the energy consumption for construction activities would not be ongoing as they would be limited to the duration of Project construction.

⁴ Emissions for the Project were quantified using CalEEMod Output Files Version 2016.3.2. Refer to **Appendix A** for modeling results and assumptions.

The development's anticipated annual energy consumption is approximately 235,928 kilowatt-hours and 15,486 therms of natural gas.⁵ Energy consumption of residential homes is currently governed by the 2019 California Building Code, Part 6 for the structure itself, and Title 20 of the California Code of Regulations for appliances. Energy consumption is anticipated to decrease over time as more energy efficient standards take effect and energy-consuming equipment reaches its end-of-life and necessitates replacement. The Project would have a *less than significant impact*.

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

Less than significant Impact. State and local authorities regulate energy use and consumption. These regulations at the State level intended to reduce energy use and greenhouse gas (GHG) emissions. These include, among others, Assembly Bill (AB) 1493 – Light-Duty Vehicle Standards; California Code of Regulations Title 24, Part 6 – Energy Efficiency Standards; and California Code of Regulations Title 24, Parts 6 and 11 – California Energy Code and Green Building Standards. The Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. Therefore, this Project would have a *less than significant impact*.

⁵ Emissions for the Project were quantified using CalEEMod Output Files Version 2016.3.2. Refer to **Appendix A** for modeling results and assumptions.

4.7 Geology and Soils

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.7.1 Environmental Setting

The Project site is located in the central portion of the San Joaquin Valley. The San Joaquin Valley is part of the Great Valley Geomorphic Province topographic and structural basin bound on the east by the Sierra Nevada and the west by the Coast Range. The Sierra Nevada, a fault block dipping gently to the southwest, is composed of igneous and metamorphic rocks of pre-Tertiary age which comprise the basement complex beneath the Valley. The subsurface of the Project site and surrounding vicinity is characterized by a thick sequence of unconsolidated sediments. Subsurface material beneath the site is primarily composed of alluvial fan deposits and floodplain over-bank deposits including interbedded silts, sands, clays, and gravels. Project site soils are of sandy loam of moderately to excessively drained.

There are no known faults on the Project site or in the immediate area. The San Andreas fault and San Joaquin faults are approximately 85 and 47 miles west, respectively⁶. The Project site is subject to relatively low seismic hazards compared to many other parts of California. Potential ground shaking produced by earthquakes generated on regional faults lying outside the immediate vicinity in the Project area may occur. Due to the distance of the known faults in the region, no significant ground shaking is anticipated on this site. Seismic hazards on the built environment are addressed in the California Building Code (CBC) that is utilized by the City of Madera Building Department to monitor safe construction within the City limits.

The Project site and the greater City of Madera consists of lands with less than two percent slope grade, and therefore are not subject to landslides.

4.7.2 Impact Assessment

a) **Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**

a-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.

a-ii) Strong seismic ground shaking?

Less than significant impact. Ground shaking intensity is largely a function of distance from the earthquake epicenter and underlying geology. Generally, the City of Madera, which is located on deep alluvial and unconsolidated sediments, could experience strong shaking during a large earthquake. The most common impact associated with strong ground shaking is damage to structures. The CBC establishes minimum standards for structures located in regions subject to ground shaking hazard areas. Structures constructed on-site would be required by state law and City ordinances to be constructed in accordance with CBC and to adhere to all current earthquake construction requirements. The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving the 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. No

⁶ California Department of Conservation. Data Viewer. Website: <https://maps.conservation.ca.gov/cgs/DataViewer/>. Accessed December 2020.

known faults with evidence of historic activity cut through the valley soils in the Project area. Due to the geology of the Project area and its distance from active faults, the potential for loss of life, property damage, ground settlement, or liquefaction to occur in the Project area is considered minimal. Therefore, the Project would result in a *less than significant impact*.

a-iii) Seismic-related ground failure, including liquefaction?

Less than significant impact. The Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Liquefaction describes a phenomenon in which a saturated soil loses strength during an earthquake as a result of induced shearing strains. Lateral and vertical movement of the soil mass combined with loss of bearing usually results. Loose sand, high groundwater conditions (where the water table is less than 30 feet below the surface), higher intensity earthquakes, and particularly long duration of ground shaking are the requisite conditions for liquefaction. None of these conditions is present at the Project site. Therefore, the Project would result in a *less than significant impact*.

a-iv) Landslides?

No impact. The Project site is generally flat. Due to the flat and level topography, the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Therefore, the Project would result in *no impact*.

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

Less than significant impact. Earthmoving activities associated with the Project would include excavation, trenching, grading, and construction. These activities could expose soils to erosion processes however, the extent of erosion would vary depending on slope steepness/stability, vegetation/cover, concentration of runoff, and weather conditions. Dischargers whose projects disturb one (1) or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the Statewide General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, and construction of linear underground or overhead facilities associated with residential construction, but does not include regular maintenance activities performed to restore the original lines, grade, or capacity of the overhead or underground facilities. The Construction General Permit requires the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. The Project would disturb more than one acre of soil; however, since the Project site has relatively flat terrain with a low potential for soil erosion and would comply with the State Water Resources Control Board (SWRCB) requirements, the Project's impacts would be *less than significant*.

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

Less than significant impact. Due to the relatively flat topography of the Project site and greater surrounding area and distance from active faults, landslides lateral spreading, subsidence, liquefaction or collapse are not considered a potentially significant geologic hazard. Therefore, the Project would result in a *less than significant impact*.

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

Less than significant impact. The Project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) and would not create substantial direct or indirect risks to life or property. The Project soil types consist of loam to sandy loam textures. Therefore, the Project would result in a *less than significant impact*.

- e) Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No impact. The Project would not require the construction or use septic tanks or alternative wastewater disposal systems. Therefore, there would be *no impact*.

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

Less than significant impact. There are no known unique paleontological resources or geological features on the Project site; however, during construction unique paleontological or geological resources could be unearthed. General Plan Action Item HC-9.2 requires a condition of approval on all discretionary projects that the Planning Department be notified immediately if any prehistoric, archaeological, or fossil artifact or resource is uncovered during construction. All construction must stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to evaluate the finds and recommend appropriate action. Implementation of the required condition, in accordance with the provisions of Public Resources Code Section 21083.2, would reduce the impact to *less than significant*.

4.8 Greenhouse Gas Emissions

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

4.8.1 Environmental Setting

Climate change is a public health and environmental concern around the world. Globally, temperature, precipitation, sea level, ocean currents, wind patterns, and storm activity are all affected by the presence of greenhouse gas (GHG) emissions in the atmosphere. Human activity contributes to emissions of six primary GHG gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of GHGs are linked to climate change.

In 2006, the California State Legislature adopted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, which aims to reduce GHG emissions in California. GHGs, as defined by AB 32, include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. AB 32 requires the CARB, the State agency that regulates statewide air quality, to adopt rules and regulations that would achieve GHG emissions equivalent to 1990 statewide levels by 2020. The Air District adopted a 29 percent less than Business-As-Usual (BAU) to meet the 2020 standard.

In 2016, Senate Bill (SB) 32 was adopted, which established a goal to achieve GHG emissions equivalent to 40 percent below 1990 statewide levels by 2030. No project-level reduction standard has been adopted to meet the 2030 standard established by SB 32; however, a recommended local plan-level emissions target of no more than 6 metric tons of carbon dioxide emissions (MTCO_{2e}) per capita per year has been identified by CARB in the 2017 Climate Change Scoping Plan. This target has been used in this analysis as an interim threshold of significance for 2030 in-lieu of an adopted project-level standard.

The Conservation Element of the 2011 City of Madera General Plan Update includes several goals, policies, and programs in the Air Quality, GHG Emissions, and Climate Change sections that address and promote practices that meet or exceed all State and federal standards and meet or exceed all current and future State-mandated targets for reducing GHG emissions. The City also requires applicants for all public and private development to integrate appropriate methods that reduce GHG emissions consistent with the Energy and Green Building sections of the Conservation Element, General Plan Policies CON-40 through 46.

4.8.2 Impact Assessment

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

Less than significant impact. The Project would generate GHG emissions and contribute to global warming. GHG emissions from construction activities are one-time, short-term emissions and therefore would not significantly contribute to long-term cumulative GHG emissions impacts of the Project. Long-term GHG emissions consist of vehicular emissions, the consumption of energy produced by carbon-based sources, and the decomposition of solid waste generated from the Project. According to the CalEEMod results for unmitigated construction and operations (see **Table 4-4 and 4-5**), the Project would not exceed the established threshold of significance. Therefore, construction emissions would be **less than significant**.

Table 4-4. Unmitigated Emissions of CO₂e, 2022

Source	Annual Carbon Dioxide Equivalent Emissions (MT CO ₂ e/Year)		
	BAU (2005)	2022	Reduction (%)
Operational Emissions	1422.9944	835.9291	41.3
Amortized Construction Emissions	19.5075	17.0262	12.7
Total Emissions	1442.5019	849.0744	41.1
2020 Reduction Standard (minimum)			29
Exceed Thresholds?			No

1. Emissions were quantified using CalEEMod Output Files Version 2016.3.2. Refer to **Appendix A** for modeling results and assumptions.

Table 4-5. Unmitigated Emissions of CO₂e, 2030

Source	Annual Carbon Dioxide Equivalent Emissions (MT CO ₂ e/Year)	
	2030	Per Capita
Operational Emissions	829.7956	3.40
Amortized Construction Emissions	17.0262	0.07
Total Emissions	846.8218	3.47
2030 MTCO₂e Per Capita Per Year Goal (maximum)		6.0
Exceed Thresholds?		No

1. Emissions were quantified using CalEEMod Output Files Version 2016.3.2. Refer to **Appendix A** for modeling results and assumptions.

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

Less than significant impact. Staff found that the Project is consistent with all General Plan policies, would incorporate solar photovoltaic panels as required by the 2019 version of Title 24, Part 6, is required to incorporate water-efficient landscaping, and is required to make the necessary road improvements to improve traffic flow. The Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. Therefore, the Project would have a **less than significant impact**.

4.9 Hazards and Hazardous Materials

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.9.1 Environmental Setting

The storage, use, generation, transport, and disposal of hazardous materials and waste are highly regulated under federal and State laws and regulations. Laws and regulations established by the USEPA are enforced by the California Environmental Protection Agency (CAL-EPA). CAL-EPA also oversees the unified hazardous waste and hazardous materials management regulatory program. California Health and Safety Code Section

25501 defines a hazardous material as “any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.” Section 21092.6 of the CEQA Statutes requires the Lead Agency to consult the lists compiled pursuant to Government Code Section 65962.5 to determine whether a proposed project and any alternative are identified as contaminated sites.

The required lists include the California Department of Toxic Substance Control’s (DTSC) online EnviroStor database⁷ and the State Water Resources Control Board’s (SWRCB) online GeoTracker database⁸. These two databases include hazardous release sites, along with other categories of sites or facilities where known or suspected sources of contamination were identified. A search of DTSC’s EnviroStor and SWRCB’s GeoTracker database in December 2020 revealed no hazardous material release sites at the Project site or in the immediate vicinity.

4.9.2 Impact Assessment

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

Less than significant impact. The Project would not involve the routine transport of hazardous waste, thus no impacts to the public or the environment would occur. Potential impacts during construction of the Project include potential spills associated with the use of fuels and lubricants in construction equipment. These potential impacts would be short-term in nature and would be reduced to less than significant levels through compliance with applicable local, state, and federal regulations, as well as the use of standard equipment operating practices. Project operations would consist of consumer grade pesticides, fertilizers, and petroleum-based fuels. These potentially hazardous materials, however, would not be of a type or occur in sufficient quantities to pose a significant hazard to public health and safety or the environment. Compliance with applicable laws and regulations would minimize hazards associated with the routine transport, use, or disposal of hazardous materials to the maximum extent practicable. Therefore, impacts would be *less than significant*.

b) Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less than significant impact. There are no known hazardous materials found on the site. The Project would not 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. Therefore, impacts would be *less than significant*.

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

Less than significant impact. There is one school, Martin Luther King Middle School, located adjacent to the southwest of the Project site. The Project is a residential subdivision and would not emit hazardous

⁷ Department of Toxic Substances Control. EnviroStor. Website: <https://www.envirostor.dtsc.ca.gov/public/>. Accessed November 2020.

⁸ State Water Resources Control Board. GeoTracker. Website: <https://geotracker.waterboards.ca.gov/>. Accessed November 2020.

emissions or handle hazardous or acutely hazardous materials, substances, or waste. Therefore, there would be *less than significant impact*.

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

No impact. The Project site is not located on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, it would not create a significant hazard to the public or the environment. Therefore, the Project would result in *no impact*.

- 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?**

No Impact. The Project is located outside the Madera Municipal Airport Compatibility Policy Map of the 2015 Madera Countywide Airport Land Use Compatibility Plan. Therefore, the Project would result in *no impact*.

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

Less than significant Impact. The Project would not involve any material changes to public streets, roads, or evacuation infrastructure and it would not include the construction of any feature that might impair the implementation of any relevant emergency operation plan. Construction activities will cause impediments such as truck deliveries, hauling materials, and construction crews. The City Engineer imposed a condition of approval that the Project developer provide a construction route and traffic control plan for review and approval by the City Engineer. Moreover, the Project would not change existing emergency response and rescue access routes within the City or County of Madera. Therefore, there would be a *less than significant impact*.

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

No impact. The Project site is not located within an area of moderate, high, or very high Fire Hazard Severity for the Local Responsibility Area, nor does it contain any areas of moderate, high, or very high Fire Hazard Severity for the State Responsibility Area.⁹ Therefore, there would be *no impact*.

⁹ Cal FIRE. Fire Hazard Severity Zones Maps. Website: <https://osfm.fire.ca.gov/divisions/wildfire-planning-engineering/wildland-hazards-building-codes/fire-hazard-severity-zones-maps/>. Accessed December 2020.

4.10 Hydrology and Water Quality

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.10.1 Environmental Setting

The City of Madera is within the San Joaquin River watershed and Basin Hydrological Study Area covering roughly 13,500 square miles, or approximately the southern two-thirds of the San Joaquin Valley. The San Joaquin River watershed is divided into numerous hydrologic areas and subareas. The Madera hydrologic area encompasses the southwestern and northwestern portions of the City and extends northwest to the City of Chowchilla, draining into the Fresno River and its tributaries. The Fresno River is the main hydrologic feature in the City. The river flows west from the Sierra Nevada Mountain Range before entering the Chowchilla Bypass in western Madera County. The Fresno River is dry throughout most of the year, with flows depending mainly on water releases from upstream water agencies.¹⁰

The City of Madera is not within or adjacent to the boundaries of a sole source aquifer. The nearest sole source aquifer is the Fresno County Sole Source Aquifer, located approximately 8 miles to the south.

FEMA FIRM Panel No. 06039C1155E (September 26, 2008) indicates that the Project site is located in Zone X,¹¹ an area of minimal flood hazard. Zone X is an area designated with a 0.2 percent chance of flooding annually.

4.10.2 Impact Assessment

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

Less than significant impact. Clearing, grading, excavation, and construction activities have the potential to impact water quality through soil erosion and increased silt and debris discharged into runoff. Additionally, the use of construction materials such as fuels, solvents, and paints may present a risk to surface water quality. Temporary storage of construction material and equipment in work areas or staging areas could create the potential for a release of hazardous materials, trash, or sediment to the storm drain system.

The Project would disturb more than one acre of soil on the Project site. Therefore, the proposed Project would be required to comply with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit (GCP). The GCP requires the submittal of Permit Registration Documents (PRDs) to the State Water Resources Board (SWRCB) prior to the start of the construction. The PRDs include a Notice of Intent (NOI), risk assessment, site map, annual fee, signed certification statement, Stormwater Pollution Prevention Plan (SWPPP), and post-construction water balance calculations. The SWPPP describes the incorporation of best management practices to control sedimentation, erosion, and the potential for hazardous materials contamination of runoff during construction.

Upon completion of the Project, stormwater would runoff into the permeable ground adjacent to homes or into the City's stormwater system. The Project would be required to implement applicable portions of the City's Storm Water Quality Management Program, ensuring that effective and adequate Best Management Practices would be in place to minimize the pollutant load in storm drainage, thereby protecting surface water quality. In addition, implementation of General Plan policies would further protect

¹⁰ City of Madera, City of Madera General Plan Update, Draft Environmental Impact Report, p4.9-1.

¹¹ Federal Emergency Management Agency. Flood Insurance Rate Map, Madera County and Incorporated Areas, Panel 1155 of 1385. Accessed December 2020.

surface quality by requiring the Storm Water Quality Management Program to be updated to include newly available best management practices. The Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Therefore, the Project impacts would be *less than significant impact*.

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

Less than significant impact. The proposed 63-lot subdivision is within the City's water service area. According to the 2015 Urban Water Management Plan (UWMP), each person uses an average of 196 gallons of water each day. With an average 3.87 persons per household (243 persons), the Project would be expected to use approximately 47,628 gallons of water per day under normal operation, including domestic and landscape irrigation. This equates to approximately 53-acre feet per year (AFY). With a 2020 population of 65,415 per the California Department of Finance, water consumption without the Project is estimated to be approximately 14,290 AFY. The 2015 UWMP anticipated having a 2020 minimum supply of 15,700 AFY. Therefore, the Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin and the impacts would be *less than significant*.

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

i) result in substantial erosion or siltation on- or off-site;

Less than significant impact. The Project site does not contain any waterways and therefore implementation of the Project would not alter the course of a stream or river. However, the Project would require grading or soil exposure during construction. If not controlled, the transport of these materials via local stormwater systems into local waterways could temporarily increase sediment concentrations. To minimize this impact, the proposed Project would be required to comply with all of the requirements of the state GCP, including preparation of PRDs and submittal of a SWPPP to the SWRCB prior to start of construction activities. Mandatory compliance with state regulations would ensure that impacts from erosion and siltation would be *less than significant impact*.

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

Less than significant impact. The Project would substantially increase the amount of impervious surface area on the Project site with the construction of roads, houses, sidewalks, and driveways. However, the requirement to construct curb and gutters, and to direct drainage to specified drainage basins will ensure impacts to flooding on- or off-site would be *less than significant*.

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

Less than significant impact. The Project would substantially alter the existing drainage pattern of the site or area. Storm runoff has been required by the City Engineer to drain into the future basin located directly

to the northwest of the Project site, which will be constructed as part of the approved subdivision map located to the southeast of the site. The Project is also required to construct the necessary stormwater conveyance systems to deliver the Project's runoff to this basin. The Project would be required to comply with the City's Master Plan, ordinances, and standard practices for stormwater drainage. Therefore, the Project impacts would be *less than significant*.

iv) impede or redirect flood flows?

Less than significant impact. All Project-related storm flows and runoff would be captured on-site and percolated in the existing soil base or conveyed to City drainage basin to be constructed directly to the northwest of the Project site. Therefore, the Project impacts would be *less than significant*.

d) Would the Project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundations?

No impact. The Project is not located in flood hazard, tsunami, or seiche zones and it will not risk the release of pollutants due to Project inundation. Therefore, there would be *no impact*.

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

Less than significant impact. The City of Madera, and thus the Project, is located in the Madera Subbasin. The City of Madera adopted the Joint Groundwater Sustainability Plan (GSP) in January 2020. The GSP includes two City of Madera projects, which include the installation of water meters and the construction of Berry Basin, a groundwater recharge basin¹². The basin is currently under construction and the Project is required to install water meters. Therefore, the Project would not conflict with or obstruct the implementation of a water quality control plan or sustainable groundwater management plan. Therefore, there would be a *less than significant impact*.

¹² Madera Subbasin Coordination Committee. Madera Subbasin Sustainable Groundwater Management Act Joint Groundwater Sustainability Plan. January 2020. Website: <https://sgma.water.ca.gov/portal/gsp/preview/21>. Accessed December 2020.

4.11 Land Use and Planning

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.11.1 Environmental Setting

The Project site is within the City limits. The site is designated in the City's General Plan as Medium Density Residential and zoned PD(4500) (Planned Development (*One unit for each 4,500 sq. ft. of site area*)). The proposed residential subdivision is a compatible residential land use and is consistent with all applicable General Plan policies and Zoning Ordinance development standards .

4.11.2 Impact Assessment

a) Would the Project physically divide an established community?

No impact. The Project would not physically divide an established community. The Project is located on vacant land and proposes to connect to existing residential subdivisions adjacent to the Project site and to the adjacent major street. Therefore, there would be **no impact**.

b) Would the Project cause a significant environmental conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No impact. The Project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, there would be **no impact**.

4.12 Mineral Resources

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.12.1 Environmental Setting

The California Geological Survey (CGS) is responsible for the classification and designation of areas within California containing or potentially containing significant mineral resources. The CGS classifies lands into Aggregate and Mineral Resource Zones (MRZs) based on guidelines adopted by the California State Mining and Geologic Board, as mandated by the Surface Mining and Reclamation Act of 1975. These MRZs identify whether known or inferred significant mineral resources are presented in areas. Lead agencies are required to incorporate identified MRZs resource areas delineated by the state into their general plans.¹³ According to the findings of the City of Madera General Plan Update EIR, the Project site does not have the potential to affect the availability of any state or locally designated mineral resource.

4.12.2 Impact Assessment

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

No impact. The Project site is not identified as containing any mineral deposits. Therefore, the Project would not 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. Therefore, there would be **no impact**.

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

No impact. The Project site is not identified as containing any mineral deposits. Therefore, the Project would not 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. As such, there would be **no impact**.

¹³ Public Resources Code, Section 2762(a)(1).

4.13 Noise

Would the Project result in:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.13.1 Environmental Setting

The Project site is located on vacant lot, with an unnamed canal to the northwest. To the southwest is Martin Luther King Middle School. To the southeast is a vacant lot that is zoned for single-family residential with an approved tentative subdivision map. To the northwest, across the future alignment for Fig Street, exists a vacant parcel planned and zoned for single family residential uses.

4.13.2 Impact Assessment

- a) **Would the Project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

Less than significant impact. The proposed Project would require the utilization of large construction equipment, including rollers, pavers, dozers, and graders. This type of equipment can have noise levels exceeding General Plan noise standards for residential land uses when measured 50 feet away from the noise source. General Plan Policies N-5, N-6, and MMC Section 3-11.02(B) requires the reduction of noise, including construction noise, to acceptable levels. The Project is limiting construction hours to between 7 am and 7 pm, Monday through Friday, and between 9 am and 5 pm on Saturdays, which is consistent with the City noise ordinance and General Plan Policy N-6. Therefore, construction-related noise impacts would remain *less than significant*.

b) Would the Project result in generation of excessive ground borne vibration or ground borne noise levels?

Less than significant impact. The Project site is located adjacent to Martin Luther Middle School and an approved single-family residential subdivision. Construction of the Project is restricted to between the hours of 7 am and 7 pm, Monday through Friday, and 9 am to 5 pm, Saturdays, consistent with the City's noise ordinance and General Plan Policy N-6. The Federal Highway Administration (FHWA) has compiled noise measurement data regarding the noise-generating characteristics of various types of construction equipment. Typical background vibration decibel (VdB) levels measured from 50 feet away, according to the Federal Transit Administration (FTA) are approximately 50 VdB, with a level of 100 VdB resulting in minor cosmetic damage to fragile buildings. For infrequent events, such as construction, impacts would be significant to residences, the nearest sensitive receptor, if they exceed 80 VdB. Vibration velocity levels are typically not additive.¹⁴ Bulldozers generate approximately 58 VdB when measured 25 feet away. Given the type of equipment expected to be found during construction, it is not anticipated the Project would generate excessive ground-borne vibration or ground-borne noise levels. Therefore, the Project would have a *less than significant impact*.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

No impact. The Project is located outside the Madera Municipal Airport Compatibility Policy Map of the 2015 Madera Countywide Airport Land Use Compatibility Plan. Therefore, the Project would result in *no impact*.

¹⁴ Federal Transit Administration. Transit Noise and Vibration Impact Assessment Manual. Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed November 2020.

4.14 Population and Housing

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.14.1 Environmental Setting

The Project site is located on vacant lot, with an unnamed canal to the northwest. To the southwest is Martin Luther King Middle School. To the southeast is a vacant lot that is zoned for single-family residential with an approved tentative subdivision map. To the northwest, across the future alignment for Fig Street, exists a vacant parcel planned and zoned for single family residential uses.

4.14.2 Impact Assessment

- a) **Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

Less than significant impact. Implementation of the Project would result in the construction of up to 63 single-family residential units. Construction of infrastructure serving the Project would indirectly extend infrastructure by providing connections to existing infrastructure. The Housing Element's most recent estimate was approximately 3.87 persons per household, a population growth of approximately 243 persons within the Project. The General Plan considered a General Plan population estimate of 68,088 people by year 2030. As of January 1, 2020, the City's population was 65,415. The Project is consistent with the General Plan and in furtherance of the goals and objectives of the City's Housing Element and consistent with infrastructure needed for development anticipated under the General Plan. As such, the Project would have a *less than significant impact*.

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

No impact. The proposed Project site is an existing vacant, undeveloped property. There are no existing homes on the site. Thus, the proposed Project would not displace substantial numbers of existing people or housing and would not necessitate the construction of replacement housing elsewhere. Therefore, there would be *no impact*.

4.15 Public Services

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.15.1 Environmental Setting

Fire, emergency, medical, and police protection services for the Project site is provided by the City of Madera. The City of Madera has a contract service with CalFire to provide management and staffing of the City's fire stations and equipment. Ambulance services is provided by a private contractor. The Project site is located within the Madera Unified School District. The District oversees pre-K through 12 education services. Parks are operated and maintained by the City of Madera.

4.15.2 Impact Assessment

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

Fire Protection:

Less than significant impact. The Madera City Fire Department completed its review of the Project. The Fire Department required the Project to provide fire sprinklers and fire hydrants, consistent with the California Fire Code requirements. Two points of access are also required, which will be provided via the future

alignment of Fig Street on the northeast of the Project and the future alignment of a local road within the approved subdivision to the southeast. Therefore, the Project would have a ***less than significant impact***.

Police Protection:

Less than significant impact. While the Project may result in the need for additional police staff, the police facility is adequate in size to support additional officers, and within a distance that would allow the department to maintain acceptable response times. Therefore, the Project will have a less than significant impact on police facilities and will not warrant the need for new or physically altered police facilities to maintain acceptable service ratios and meet performance objectives. The Project is required to pay all applicable impact fees, including those to offset impacts to police facilities. Therefore, the Project would have a ***less than significant impact***.

Schools:

Less than significant impact. The Project is located in the Madera Unified School District. The District has a student generation factor rate of 0.602 students per single-family dwelling. Based on the District's student generation factor rate, the project would generate a total of 37 students. California Government Code Sections 65995(h) and 65996(b) specifically set forth that payment of developer impact fees provide full and complete school facilities mitigation. Therefore, the Project would have ***less than significant impact*** on school facilities.

Parks:

Less than significant impact. The Project would result in approximately 243 residents using the latest Housing Element pph ratio of 3.87. General Plan Policy PR-1 states that the City shall develop and maintain a complete system of public parks distributed throughout the City that provides opportunities for passive and active recreation at a minimum of 3 acres per 1,000 residents. The City currently has 324.47 acres of parkland¹⁵. With a 2020 population of 65,415 and the addition of 243 residents, the total amount of parkland required is 196.97 acres. The Project is also required to provide 0.73 acres of park space or pay an in-lieu fee pursuant to the City's Quimby Act Ordinance. The City has sufficient park space and therefore the Project would have a ***less than significant impact*** on parks.

Other Public Facilities:

No impact. Due to the nature of the Project, the Project would not result in a need for additional or other public facilities. There would be ***no impact***.

¹⁵ City of Madera. Website: <https://www.madera.gov/home/departments/parks-community-services/parks-trails/>. Accessed November 2020.

4.16 Recreation

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.16.1 Environmental Setting

The City of Madera operates and maintains a number of recreational facilities located within one-half mile of the Project site, including McNally Park, Knox Park, Madera Sunrise Rotary Sports Complex, and Millview Park. General Plan Policy PR-1 states that the City shall develop and maintain a complete system of public parks distributed throughout the City that provides opportunities for passive and active recreation at a minimum of 3 acres per 1,000 residents. The City currently has 324.47 acres of parkland¹⁶. With a 2020 population of 65,415, there are about 4.9 acres per 1,000 residents provided.

4.16.2 Impact Assessment

- 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?**

Less than significant impact. Increased demand for existing parks or other recreational facilities is typically driven by an increase in population. The proposed Project, a single-family residential subdivision, would result in a net increase of residents at the Project site. However, the addition of the Project would result in a parks ratio of approximately 4.9 acres per 1,000 residents. Therefore, the Project would not contribute to the substantial deterioration of existing facilities. Therefore, the Project would contribute to the deterioration of existing facilities. Therefore, there is *less than significant impact*.

¹⁶ City of Madera. Website: <https://www.madera.gov/home/departments/parks-community-services/parks-trails/>. Accessed November 2020.

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?

Less than significant impact. Increased demand for existing parks or other recreational facilities is typically driven by an increase in population. The proposed Project, a single family residential subdivision, would result in a net increase of residents at the Project site or elsewhere. However, the Project would be required to provide a park or pay an in-lieu fee in accordance with the City's Quimby Act Ordinance. Therefore, there is a *less than significant impact*.

4.17 Transportation

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

4.17.1 Environmental Setting

The Project site is served by a network of local and arterial streets. Site access would be provided by Tozer Street to the east. Construction of the Project would result in an interior network of streets being developed, including Fig Street along the northeast boundary of the Project, which would connect to Tozer Street. There are no existing sidewalks or bicycle lanes on Tozer Street; however, these facilities would be constructed as development occurs.

4.17.2 Impact Assessment

- a) **Would the Project conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?**

Less than significant impact. The Project would not conflict with any program plan, ordinance, or policy addressing the circulation system, including transit, roadway, and bicycle and pedestrian facilities. The Project is required to submit improvement plans, including roadway improvements, for review and approval by the City Engineer to ensure improvements will be consistent with City standards. Therefore, there would be a *less than significant impact*.

b) Would the Project conflict or be inconsistent with CEQA Guidelines section 15064.3 subdivision (b)?

Less than significant impact. The Project is located in Transportation Analysis Zone (TAZ) 2556 of the California Statewide Travel Demand Model (CSTDM)¹⁷, which has an average home-based vehicle mile traveled (VMT) per capita of 6.81. The regional home-based VMT per capita is 16.57. The Office of Planning and Research (OPR) has stated that a development project whose VMT per capita is less than 15 percent of the regional or citywide average should have a less than significant impact¹⁸. The TAZ in which the Project is located is approximately 59 percent below the countywide average and the Project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). Therefore, there would be a *less than significant impact*.

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

Less than significant impact. Site access would be provided directly from three points of access to the future Fig Street alignment and from one point of access through the approved subdivision map to the southeast. All points of access lead to Tozer Street east of the Project site. The Engineering Department has conditioned the Project to ensure that curve radii, street widths and transitions conform to safety standards, and to ensure that street signalization appropriately addresses traffic generated by the Project and traffic patterns in the area. Compliance will be confirmed during review and approval of the required improvement plans by the City Engineer. Therefore, the Project would result in a *less than significant impact*.

d) Would the Project result in inadequate emergency access?

Less than significant impact. Construction activities will cause impediments such as truck deliveries, hauling materials, and construction crews. The City Engineer imposed a condition of approval that the Project developer provide a construction route and traffic control plan for review and approval by the City Engineer. The Project has been reviewed by the Engineering Department and the Fire Department to ensure that the Project once constructed would not result in inadequate emergency access. Therefore, the Project would result in a *less than significant impact*.

¹⁷ CalTrans. SB 743 VMT Impact Assessment. Website: <https://dot.ca.gov/programs/transportation-planning/multi-modal-system-planning/statewide-modeling/sb-743-vmt-impact-assessment>. Accessed November 2020.

¹⁸ Governor's Office of Planning and Research. Technical Advisory on Evaluating Transportation Impacts in CEQA. Website: https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf. Accessed November 2020.

4.18 Tribal Cultural Resources

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.18.1 Environmental Setting

A previous sacred lands search completed for General Plan Environmental Impact Report (EIR) did not identify any sensitive Native American cultural resources either within or near the Project site. California Native American tribes traditionally and culturally affiliated with the Project area did not request consultation pursuant to Public Resources Code Section 21080.3.1.

4.18.2 Impact Assessment

- a) Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- i) *Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code section 5020.1(k), or*

No impact. The Project would not 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 the Project is not listed or eligible for listing in the California Register of Historical Resources (CRHR), or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k). As described above, no known tribal cultural resources have been identified (as defined in Section 21074) within the Project area. Therefore, the Project would **not impact** the significance of a tribal cultural resource that is either listed in, or eligible for listing in, the CRHR, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).

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

Less than significant impact. The Project site is not a resource determined by the lead agency (City of Madera), 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. The Project site is not listed as a historical resource in the California Register of Historical Sources. As described above, no known tribal cultural resources have been identified (as defined in Section 21074) within the Project area, and no substantial information has been provided to the City to indicate otherwise. However, it is possible that unknown buried archaeological materials could be found during ground disturbing activities, including unrecorded Native American materials. If such resources were discovered, the impact to cultural resources could be significant. General Plan Action Item HC-9.2 requires a condition of approval on all discretionary projects that the Planning Department be notified immediately if any prehistoric, archaeological, or fossil artifact or resource is uncovered during construction. All construction must stop and an archaeologist that meets the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology shall be retained to evaluate the finds and recommend appropriate action. Implementation of the required condition would reduce the impact to tribal cultural resources to **less than significant**.

4.19 Utilities and Service Systems

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.19.1 Environmental Setting

The Project site is a vacant property planned for medium density residential uses in the General Plan. The Project site's land uses were analyzed in several utility planning documents, including the following:

- 2014 Water System Master Plan
- 2014 Sanitary Sewer System Master Plan
- 2015 Urban Water Management Plan

4.19.2 Impact Assessment

- a) Would the Project 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) Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less than significant impact. The City implements a City-wide program for completion of incremental expansions to facilities for planned water supply, sewer treatment, and stormwater drainage. The City Engineer has conditioned the Project to require the installation of an 8-inch water main and extension of water mains to provide service to the subdivision and payment of impact fees to offset the Project's incremental water usage.

The City has sufficient water supplies available to serve the Project and its existing commitments during normal, dry, and multiple dry years. The Project must comply with the requirements of the Engineering Department for the construction of water, wastewater, and storm water drainage infrastructure.

PG&E, the natural gas and electric service provider for the area, incrementally expands and updates its service system as needed to serve its users. Accordingly, telecommunications providers in the area incrementally expand and update their service systems in response to usage and demand. The developer will be responsible for planning and installing wastewater collection and water delivery systems, as well as electrical and telecommunications service infrastructure. In addition, the developer be responsible for the payment of development impact fees to off-set potential impacts to these facilities resulting in *less than significant impacts*.

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

Less than significant impact. The Project would be served by the City of Madera Wastewater Treatment Plant (WWTP). The Madera WWTP has a design capacity of 10.1 MGD and it can accommodate a design peak dry weather flow of up to 15.1 MGD. The 2014 Sanitary Sewer System assumed a 2020 population of 86,633 with an average day flow of 10.4 MGD. The served population with the Project would be 65,658, and therefore approximately 25 percent below the assumed 2020 average flow. The WWTP has adequate capacity to serve the Project in addition to its existing commitments, therefore the Project would have a *less than significant impact*.

- d) Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than significant impact. The Fairmead Solid Waste Disposal Site located at 21739 Road 19 serves the City of Madera. The landfill has a maximum permitted throughput of 1,100 tons/day. According to CalRecycle¹⁹, a typical Madera resident produces approximately 3.9 pounds of solid waste each day, or approximately 15.1 pounds per household per day. The 63 residences proposed by the Project would generate approximately 0.47 tons per day, representing less than 0.1 percent of the landfill's permitted

¹⁹ CalRecycle. Jurisdiction Diversion/Disposal Rate Summary. Website: <https://www2.calrecycle.ca.gov/LGCentral/DiversionProgram/JurisdictionDiversionPost2006>. Accessed November 2020.

daily maximum throughput. The landfill has a maximum permitted capacity of 9,400,000 cubic yards, with last reported remaining capacity of 5,552,894 cubic yards. The landfill has an estimated closure date for December 2028, however throughput has typically been less than maximum capacity. The landfill currently has sufficient capacity to serve the Project. The Project is not anticipated to generate solid waste in excess of State or local standards. Therefore, the Project would have a *less than significant impact*.

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

Less than significant impact. The Project would be required to comply with federal, State, and local management and reduction statutes and regulations related to solid waste. Therefore, the impact would *less than significant*.

4.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.20.1 Environmental Setting

The Project site is not located in or near State Responsibility Areas or include lands classified as Very High Fire Hazard Severity Zones. The Project would be developed consistent with all regulations of the California Fire Code.

4.20.2 Impact Assessment

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?

No impact. The Project is located in an area of low fire risk and is not located in or near a State Responsibility Area nor near land classified by either CalFire²⁰ or the City of Madera as a Very High Fire Hazard Severity Zone²¹. The nearest State Responsibility Area is approximately 20 miles to the northeast of the Project site. Additionally, the site is approximately 28 miles from the nearest Very High Fire Hazard Severity Zone classification. As the Project is not subject to wildfire, it would have no impact on adopted emergency response plans or emergency evacuation plans relative to the risk of wildfire. The Project area does not generally experience strong prevailing winds and experiences less than 2 percent slope. As the Project is relatively flat, and not located in or near a State Responsibility Area nor land classified by either Cal Fire or the City as a Very High Fire Hazard Severity Zone, it is not subject to the risk of downslope or downstream flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes. The Fire Department reviewed the Project and determined the installation or maintenance of the Project or any associated infrastructure would not exacerbate fire risks or result in an impact to the environment. Therefore, there would be *no impact*.

²⁰ CAL FIRE. Fire Hazard Severity Zones in SRA, Madera County. Website: https://osfm.fire.ca.gov/media/6700/fhszs_map20.pdf. Accessed November 2020.

²¹ CAL FIRE. Draft Fire Hazard Severity Zones in LRA, Madera County. Website: https://osfm.fire.ca.gov/media/6703/fhszl06_1_map20.pdf. Accessed November 2020.

4.21 CEQA Mandatory Findings of Significance

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

4.21.1 Environmental Setting

Based upon staff analysis and comments from experts, it has been determined that the proposed project could generate some limited adverse impacts in the areas of Aesthetics, Air Quality, Biologic Resources, Cultural Resources, Energy, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Population and Housing, Public Services, Recreation, Transportation, Tribal Cultural Resources, and Utilities and Service Systems.

The potential impacts identified in this Initial Study are considered to be less than significant since they will cease upon completion of construction or do not exceed a threshold of significance. Therefore, a Negative Declaration is the appropriate level of documentation for this Project.

4.21.2 Impact Assessment

- a) Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than significant impact. The analysis conducted in this Initial Study/Negative Declaration results in a determination that the Project will have a *less than significant* effect on the environment. Accordingly, the Project will involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory.

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

Less than significant impact. CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of cumulative effects of a project must be conducted in connection with the effects of past projects, other current projects, and probable future projects. The Project will include the construction of a new residential subdivision.

The Project would result in direct but planned population growth. The Project site was anticipated for urbanization with the development of the City’s General Plan. Therefore, implementation of the Project would not result in significant cumulative impacts and all potential impacts would be reduced to *less than significant* through the implementation of basic regulatory requirements incorporated into Project design.

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

Less than significant impact. The Project would not have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly. Impacts are considered to be *less than significant*.

Appendix A: CalEEMod Output Files

TSM 2020-01 - Madera County, Annual

TSM 2020-01
Madera County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	63.00	Dwelling Unit	11.37	113,400.00	244

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.9	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - PG&E Intensity Factor

Land Use - Lot Acreage based on gross acreage.

Population based on rate of 3.87 per household (2015 Housing Element)

Construction Phase - No demolition or site preparation required

Grading - Assumed site will be balanced (no net fill)

Architectural Coating - Architectural coatings will occur in Year 2022 or later. SJVAPCD Rule 4601 Year 2022+ VOC emissions apply.

Vehicle Trips - ITE 10th Edition Rates Used

Fleet Mix - SJVAPCD 2022 Residential Fleet Mix used

Area Coating - Reapplication of architectural coatings will occur in 2022 or later. SJVAPCD Rule 4601 Year 2022 VOC emissions apply.

Energy Use -

Solid Waste - Per CalRecycle solid waste generation is 15.1 pounds per household per day.

Construction Off-road Equipment Mitigation - Watering and vehicle speed reductions required per SJVAPCD Rule 8021

Mobile Land Use Mitigation - Project proposes 5 intersections across 11.37 acres, equivalent to 281.42 intersections per mile. Distance to downtown is 1.8 miles. Distance to a transit stop is 1.0 miles. Project is required to construct sidewalks on site and connecting off-site.

Energy Mitigation - 2019 Title 24 is 7% more efficient than 2016 Title 24 standard (https://www.energy.ca.gov/sites/default/files/2020-05/2019_Energy_Code_Residential_Updates_ada.pdf)

kWh Generated based on 2019 Title 24. Assuming average floor area of 1,800 square feet. Total Solar kilowatts assumed is 196.5096. Kilowatt-hours output using PVwatts.

Woodstoves - No woodstoves per SJVAPCD Rule 4901

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	150	50
tblAreaCoating	Area_EF_Residential_Interior	150	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	PhaseEndDate	7/14/2022	6/2/2022
tblConstructionPhase	PhaseEndDate	5/19/2022	4/7/2022
tblConstructionPhase	PhaseEndDate	3/25/2021	2/11/2021
tblConstructionPhase	PhaseEndDate	6/16/2022	5/5/2022

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tblConstructionPhase	PhaseStartDate	6/17/2022	5/6/2022
tblConstructionPhase	PhaseStartDate	3/26/2021	2/12/2021
tblConstructionPhase	PhaseStartDate	2/12/2021	1/1/2021
tblConstructionPhase	PhaseStartDate	5/20/2022	4/8/2022
tblFleetMix	HHD	0.10	0.02
tblFleetMix	LDA	0.53	0.53
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.3000e-003
tblFleetMix	LHD2	5.4560e-003	9.0000e-004
tblFleetMix	MCY	7.1390e-003	2.5000e-003
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MH	9.4900e-004	1.8000e-003
tblFleetMix	MHD	0.01	8.6000e-003
tblFleetMix	OBUS	2.7350e-003	0.00
tblFleetMix	SBUS	1.2430e-003	7.0000e-004
tblFleetMix	UBUS	1.7040e-003	4.4000e-003
tblLandUse	LotAcreage	20.45	11.37
tblLandUse	Population	180.00	244.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblSolidWaste	SolidWasteGenerationRate	87.84	173.53
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.50
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	11.37	0.00
tblWoodstoves	NumberNoncatalytic	11.37	0.00

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2.0 Emissions Summary

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					
2021	0.2977	2.8050	2.4860	4.5000e-003	0.1590	0.1410	0.3000	0.0618	0.1319	0.1937	0.0000	392.0262	392.0262	0.0933	0.0000	394.3598
2022	0.4314	0.6912	0.7609	1.3300e-003	9.5100e-003	0.0345	0.0441	2.5700e-003	0.0324	0.0350	0.0000	115.7636	115.7636	0.0265	0.0000	116.4258
Maximum	0.4314	2.8050	2.4860	4.5000e-003	0.1590	0.1410	0.3000	0.0618	0.1319	0.1937	0.0000	392.0262	392.0262	0.0933	0.0000	394.3598

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					
2021	0.2977	2.8050	2.4860	4.5000e-003	0.0796	0.1410	0.2206	0.0289	0.1319	0.1608	0.0000	392.0258	392.0258	0.0933	0.0000	394.3594
2022	0.4314	0.6912	0.7609	1.3300e-003	9.5100e-003	0.0345	0.0441	2.5700e-003	0.0324	0.0350	0.0000	115.7634	115.7634	0.0265	0.0000	116.4257
Maximum	0.4314	2.8050	2.4860	4.5000e-003	0.0796	0.1410	0.2206	0.0289	0.1319	0.1608	0.0000	392.0258	392.0258	0.0933	0.0000	394.3594

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	47.10	0.00	23.07	51.15	0.00	14.39	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	1-1-2021	3-31-2021	1.1088	1.1088
2	4-1-2021	6-30-2021	0.6589	0.6589
3	7-1-2021	9-30-2021	0.6662	0.6662
4	10-1-2021	12-31-2021	0.6665	0.6665
5	1-1-2022	3-31-2022	0.5855	0.5855
6	4-1-2022	6-30-2022	0.5400	0.5400
		Highest	1.1088	1.1088

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	0.4953	0.0290	0.4783	1.8000e-004		4.4900e-003	4.4900e-003		4.4900e-003	4.4900e-003	0.0000	28.0562	28.0562	1.2600e-003	5.0000e-004	28.2368
Energy	8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	160.4996	160.4996	8.9400e-003	3.1100e-003	161.6511
Mobile	0.1976	0.6655	2.3794	6.9400e-003	0.6275	6.3700e-003	0.6339	0.1679	5.9300e-003	0.1738	0.0000	636.4957	636.4957	0.0363	0.0000	637.4019
Waste						0.0000	0.0000		0.0000	0.0000	35.2254	0.0000	35.2254	2.0818	0.0000	87.2694
Water						0.0000	0.0000		0.0000	0.0000	1.3022	4.1130	5.4152	0.1342	3.2400e-003	9.7358
Total	0.7017	0.7703	2.8900	7.6000e-003	0.6275	0.0170	0.6445	0.1679	0.0166	0.1845	36.5276	829.1645	865.6921	2.2624	6.8500e-003	924.2949

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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	0.4953	0.0290	0.4783	1.8000e-004		4.4900e-003	4.4900e-003		4.4900e-003	4.4900e-003	0.0000	28.0562	28.0562	1.2600e-003	5.0000e-004	28.2368
Energy	8.3500e-003	0.0713	0.0304	4.6000e-004		5.7700e-003	5.7700e-003		5.7700e-003	5.7700e-003	0.0000	113.6558	113.6558	4.6900e-003	2.1600e-003	114.4157
Mobile	0.1936	0.6395	2.2519	6.5000e-003	0.5842	5.9800e-003	0.5902	0.1563	5.5700e-003	0.1619	0.0000	595.4089	595.4089	0.0345	0.0000	596.2714
Waste						0.0000	0.0000		0.0000	0.0000	35.2254	0.0000	35.2254	2.0818	0.0000	87.2694
Water						0.0000	0.0000		0.0000	0.0000	1.3022	4.1130	5.4152	0.1342	3.2400e-003	9.7358
Total	0.6972	0.7398	2.7606	7.1400e-003	0.5842	0.0162	0.6004	0.1563	0.0158	0.1721	36.5276	741.2339	777.7615	2.2564	5.9000e-003	835.9291

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.64	3.96	4.48	6.05	6.90	4.47	6.84	6.90	4.41	6.68	0.00	10.60	10.16	0.27	13.87	9.56

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2021	2/11/2021	5	30	
2	Building Construction	Building Construction	2/12/2021	4/7/2022	5	300	
3	Paving	Paving	4/8/2022	5/5/2022	5	20	
4	Architectural Coating	Architectural Coating	5/6/2022	6/2/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 229,635; Residential Outdoor: 76,545; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

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
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	23.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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3.2 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7425	81.7425	0.0264	0.0000	82.4034
Total	0.0629	0.6960	0.4632	9.3000e-004	0.1301	0.0298	0.1599	0.0540	0.0274	0.0814	0.0000	81.7425	81.7425	0.0264	0.0000	82.4034

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	1.2500e-003	8.0000e-004	8.8900e-003	2.0000e-005	2.3900e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1330	2.1330	6.0000e-005	0.0000	2.1346
Total	1.2500e-003	8.0000e-004	8.8900e-003	2.0000e-005	2.3900e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1330	2.1330	6.0000e-005	0.0000	2.1346

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3.2 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0507	0.0000	0.0507	0.0210	0.0000	0.0210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7424	81.7424	0.0264	0.0000	82.4033
Total	0.0629	0.6960	0.4632	9.3000e-004	0.0507	0.0298	0.0805	0.0210	0.0274	0.0484	0.0000	81.7424	81.7424	0.0264	0.0000	82.4033

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	1.2500e-003	8.0000e-004	8.8900e-003	2.0000e-005	2.3900e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1330	2.1330	6.0000e-005	0.0000	2.1346
Total	1.2500e-003	8.0000e-004	8.8900e-003	2.0000e-005	2.3900e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1330	2.1330	6.0000e-005	0.0000	2.1346

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3.3 Building Construction - 2021

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	0.2196	2.0134	1.9144	3.1100e-003		0.1107	0.1107		0.1041	0.1041	0.0000	267.5411	267.5411	0.0646	0.0000	269.1547
Total	0.2196	2.0134	1.9144	3.1100e-003		0.1107	0.1107		0.1041	0.1041	0.0000	267.5411	267.5411	0.0646	0.0000	269.1547

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	2.9300e-003	0.0878	0.0208	2.3000e-004	5.3500e-003	2.7000e-004	5.6100e-003	1.5500e-003	2.6000e-004	1.8000e-003	0.0000	21.7219	21.7219	1.7400e-003	0.0000	21.7654
Worker	0.0111	7.0600e-003	0.0787	2.1000e-004	0.0212	1.7000e-004	0.0213	5.6300e-003	1.5000e-004	5.7800e-003	0.0000	18.8878	18.8878	5.6000e-004	0.0000	18.9017
Total	0.0140	0.0948	0.0995	4.4000e-004	0.0265	4.4000e-004	0.0269	7.1800e-003	4.1000e-004	7.5800e-003	0.0000	40.6097	40.6097	2.3000e-003	0.0000	40.6671

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3.3 Building Construction - 2021

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	0.2196	2.0134	1.9144	3.1100e-003		0.1107	0.1107		0.1041	0.1041	0.0000	267.5407	267.5407	0.0646	0.0000	269.1544
Total	0.2196	2.0134	1.9144	3.1100e-003		0.1107	0.1107		0.1041	0.1041	0.0000	267.5407	267.5407	0.0646	0.0000	269.1544

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	2.9300e-003	0.0878	0.0208	2.3000e-004	5.3500e-003	2.7000e-004	5.6100e-003	1.5500e-003	2.6000e-004	1.8000e-003	0.0000	21.7219	21.7219	1.7400e-003	0.0000	21.7654
Worker	0.0111	7.0600e-003	0.0787	2.1000e-004	0.0212	1.7000e-004	0.0213	5.6300e-003	1.5000e-004	5.7800e-003	0.0000	18.8878	18.8878	5.6000e-004	0.0000	18.9017
Total	0.0140	0.0948	0.0995	4.4000e-004	0.0265	4.4000e-004	0.0269	7.1800e-003	4.1000e-004	7.5800e-003	0.0000	40.6097	40.6097	2.3000e-003	0.0000	40.6671

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3.3 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	0.0589	0.5387	0.5645	9.3000e-004		0.0279	0.0279		0.0263	0.0263	0.0000	79.9452	79.9452	0.0192	0.0000	80.4240
Total	0.0589	0.5387	0.5645	9.3000e-004		0.0279	0.0279		0.0263	0.0263	0.0000	79.9452	79.9452	0.0192	0.0000	80.4240

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	8.0000e-004	0.0248	5.5800e-003	7.0000e-005	1.6000e-003	7.0000e-005	1.6700e-003	4.6000e-004	7.0000e-005	5.3000e-004	0.0000	6.4290	6.4290	5.1000e-004	0.0000	6.4417
Worker	3.0700e-003	1.8800e-003	0.0215	6.0000e-005	6.3200e-003	5.0000e-005	6.3700e-003	1.6800e-003	4.0000e-005	1.7200e-003	0.0000	5.4379	5.4379	1.5000e-004	0.0000	5.4416
Total	3.8700e-003	0.0267	0.0270	1.3000e-004	7.9200e-003	1.2000e-004	8.0400e-003	2.1400e-003	1.1000e-004	2.2500e-003	0.0000	11.8669	11.8669	6.6000e-004	0.0000	11.8834

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3.3 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	tons/yr										MT/yr					
Off-Road	0.0589	0.5387	0.5645	9.3000e-004		0.0279	0.0279		0.0263	0.0263	0.0000	79.9451	79.9451	0.0192	0.0000	80.4239
Total	0.0589	0.5387	0.5645	9.3000e-004		0.0279	0.0279		0.0263	0.0263	0.0000	79.9451	79.9451	0.0192	0.0000	80.4239

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	8.0000e-004	0.0248	5.5800e-003	7.0000e-005	1.6000e-003	7.0000e-005	1.6700e-003	4.6000e-004	7.0000e-005	5.3000e-004	0.0000	6.4290	6.4290	5.1000e-004	0.0000	6.4417
Worker	3.0700e-003	1.8800e-003	0.0215	6.0000e-005	6.3200e-003	5.0000e-005	6.3700e-003	1.6800e-003	4.0000e-005	1.7200e-003	0.0000	5.4379	5.4379	1.5000e-004	0.0000	5.4416
Total	3.8700e-003	0.0267	0.0270	1.3000e-004	7.9200e-003	1.2000e-004	8.0400e-003	2.1400e-003	1.1000e-004	2.2500e-003	0.0000	11.8669	11.8669	6.6000e-004	0.0000	11.8834

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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	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895

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	5.8000e-004	3.6000e-004	4.0500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0280	1.0280	3.0000e-005	0.0000	1.0287
Total	5.8000e-004	3.6000e-004	4.0500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0280	1.0280	3.0000e-005	0.0000	1.0287

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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	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895

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	5.8000e-004	3.6000e-004	4.0500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0280	1.0280	3.0000e-005	0.0000	1.0287
Total	5.8000e-004	3.6000e-004	4.0500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0280	1.0280	3.0000e-005	0.0000	1.0287

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3.5 Architectural Coating - 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					
Archit. Coating	0.3548					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	0.3568	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574

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	1.9000e-004	1.2000e-004	1.3500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3427	0.3427	1.0000e-005	0.0000	0.3429
Total	1.9000e-004	1.2000e-004	1.3500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3427	0.3427	1.0000e-005	0.0000	0.3429

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3.5 Architectural Coating - 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	tons/yr										MT/yr					
Archit. Coating	0.3548					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	0.3568	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574

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	1.9000e-004	1.2000e-004	1.3500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3427	0.3427	1.0000e-005	0.0000	0.3429
Total	1.9000e-004	1.2000e-004	1.3500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3427	0.3427	1.0000e-005	0.0000	0.3429

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1936	0.6395	2.2519	6.5000e-003	0.5842	5.9800e-003	0.5902	0.1563	5.5700e-003	0.1619	0.0000	595.4089	595.4089	0.0345	0.0000	596.2714
Unmitigated	0.1976	0.6655	2.3794	6.9400e-003	0.6275	6.3700e-003	0.6339	0.1679	5.9300e-003	0.1738	0.0000	636.4957	636.4957	0.0363	0.0000	637.4019

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	594.72	601.02	535.50	1,680,598	1,564,637
Total	594.72	601.02	535.50	1,680,598	1,564,637

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.534300	0.203000	0.167300	0.054500	0.001300	0.000900	0.008600	0.020700	0.000000	0.004400	0.002500	0.000700	0.001800

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive 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	31.0343	31.0343	3.1000e-003	6.4000e-004	31.3033
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	72.6014	72.6014	7.2600e-003	1.5000e-003	73.2305
NaturalGas Mitigated	8.3500e-003	0.0713	0.0304	4.6000e-004		5.7700e-003	5.7700e-003		5.7700e-003	5.7700e-003	0.0000	82.6215	82.6215	1.5800e-003	1.5100e-003	83.1125
NaturalGas Unmitigated	8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	87.8982	87.8982	1.6800e-003	1.6100e-003	88.4205

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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					
Single Family Housing	1.64715e+006	8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	87.8982	87.8982	1.6800e-003	1.6100e-003	88.4205
Total		8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	87.8982	87.8982	1.6800e-003	1.6100e-003	88.4205

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					
Single Family Housing	1.54827e+006	8.3500e-003	0.0713	0.0304	4.6000e-004		5.7700e-003	5.7700e-003		5.7700e-003	5.7700e-003	0.0000	82.6215	82.6215	1.5800e-003	1.5100e-003	83.1125
Total		8.3500e-003	0.0713	0.0304	4.6000e-004		5.7700e-003	5.7700e-003		5.7700e-003	5.7700e-003	0.0000	82.6215	82.6215	1.5800e-003	1.5100e-003	83.1125

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	551927	72.6014	7.2600e-003	1.5000e-003	73.2305
Total		72.6014	7.2600e-003	1.5000e-003	73.2305

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	235928	31.0343	3.1000e-003	6.4000e-004	31.3033
Total		31.0343	3.1000e-003	6.4000e-004	31.3033

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4953	0.0290	0.4783	1.8000e-004		4.4900e-003	4.4900e-003		4.4900e-003	4.4900e-003	0.0000	28.0562	28.0562	1.2600e-003	5.0000e-004	28.2368
Unmitigated	0.4953	0.0290	0.4783	1.8000e-004		4.4900e-003	4.4900e-003		4.4900e-003	4.4900e-003	0.0000	28.0562	28.0562	1.2600e-003	5.0000e-004	28.2368

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	0.0355					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4429					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.7600e-003	0.0236	0.0100	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	27.2921	27.2921	5.2000e-004	5.0000e-004	27.4543
Landscaping	0.0141	5.4000e-003	0.4683	2.0000e-005		2.5900e-003	2.5900e-003		2.5900e-003	2.5900e-003	0.0000	0.7641	0.7641	7.4000e-004	0.0000	0.7825
Total	0.4953	0.0290	0.4783	1.7000e-004		4.5000e-003	4.5000e-003		4.5000e-003	4.5000e-003	0.0000	28.0562	28.0562	1.2600e-003	5.0000e-004	28.2368

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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	0.0355					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4429					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.7600e-003	0.0236	0.0100	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	27.2921	27.2921	5.2000e-004	5.0000e-004	27.4543
Landscaping	0.0141	5.4000e-003	0.4683	2.0000e-005		2.5900e-003	2.5900e-003		2.5900e-003	2.5900e-003	0.0000	0.7641	0.7641	7.4000e-004	0.0000	0.7825
Total	0.4953	0.0290	0.4783	1.7000e-004		4.5000e-003	4.5000e-003		4.5000e-003	4.5000e-003	0.0000	28.0562	28.0562	1.2600e-003	5.0000e-004	28.2368

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.4152	0.1342	3.2400e-003	9.7358
Unmitigated	5.4152	0.1342	3.2400e-003	9.7358

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	4.1047 / 2.58775	5.4152	0.1342	3.2400e-003	9.7358
Total		5.4152	0.1342	3.2400e-003	9.7358

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	4.1047 / 2.58775	5.4152	0.1342	3.2400e-003	9.7358
Total		5.4152	0.1342	3.2400e-003	9.7358

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	35.2254	2.0818	0.0000	87.2694
Unmitigated	35.2254	2.0818	0.0000	87.2694

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	173.532	35.2254	2.0818	0.0000	87.2694
Total		35.2254	2.0818	0.0000	87.2694

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	173.532	35.2254	2.0818	0.0000	87.2694
Total		35.2254	2.0818	0.0000	87.2694

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

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

Equipment Type	Number
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11.0 Vegetation

TSM 2020-01 - Madera County, Winter

TSM 2020-01
Madera County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	63.00	Dwelling Unit	11.37	113,400.00	244

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.9	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - PG&E Intensity Factor

Land Use - Lot Acreage based on gross acreage.

Population based on rate of 3.87 per household (2015 Housing Element)

Construction Phase - No demolition or site preparation required

Grading - Assumed site will be balanced (no net fill)

Architectural Coating - Architectural coatings will occur in Year 2022 or later. SJVAPCD Rule 4601 Year 2022+ VOC emissions apply.

Vehicle Trips - ITE 10th Edition Rates Used

Fleet Mix - SJVAPCD 2022 Residential Fleet Mix used

Area Coating - Reapplication of architectural coatings will occur in 2022 or later. SJVAPCD Rule 4601 Year 2022 VOC emissions apply.

Energy Use -

Solid Waste - Per CalRecycle solid waste generation is 15.1 pounds per household per day.

Construction Off-road Equipment Mitigation - Watering and vehicle speed reductions required per SJVAPCD Rule 8021

Mobile Land Use Mitigation - Project proposes 5 intersections across 11.37 acres, equivalent to 281.42 intersections per mile. Distance to downtown is 1.8 miles. Distance to a transit stop is 1.0 miles. Project is required to construct sidewalks on site and connecting off-site.

Energy Mitigation - 2019 Title 24 is 7% more efficient than 2016 Title 24 standard (https://www.energy.ca.gov/sites/default/files/2020-05/2019_Energy_Code_Residential_Updates_ada.pdf)

kWh Generated based on 2019 Title 24. Assuming average floor area of 1,800 square feet. Total Solar kilowatts assumed is 196.5096. Kilowatt-hours output using PVwatts.

Woodstoves - No woodstoves per SJVAPCD Rule 4901

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	150	50
tblAreaCoating	Area_EF_Residential_Interior	150	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	PhaseEndDate	7/14/2022	6/2/2022
tblConstructionPhase	PhaseEndDate	5/19/2022	4/7/2022
tblConstructionPhase	PhaseEndDate	3/25/2021	2/11/2021
tblConstructionPhase	PhaseEndDate	6/16/2022	5/5/2022

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tblConstructionPhase	PhaseStartDate	6/17/2022	5/6/2022
tblConstructionPhase	PhaseStartDate	3/26/2021	2/12/2021
tblConstructionPhase	PhaseStartDate	2/12/2021	1/1/2021
tblConstructionPhase	PhaseStartDate	5/20/2022	4/8/2022
tblFleetMix	HHD	0.10	0.02
tblFleetMix	LDA	0.53	0.53
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.3000e-003
tblFleetMix	LHD2	5.4560e-003	9.0000e-004
tblFleetMix	MCY	7.1390e-003	2.5000e-003
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MH	9.4900e-004	1.8000e-003
tblFleetMix	MHD	0.01	8.6000e-003
tblFleetMix	OBUS	2.7350e-003	0.00
tblFleetMix	SBUS	1.2430e-003	7.0000e-004
tblFleetMix	UBUS	1.7040e-003	4.4000e-003
tblLandUse	LotAcreage	20.45	11.37
tblLandUse	Population	180.00	244.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblSolidWaste	SolidWasteGenerationRate	87.84	173.53
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.50
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	11.37	0.00
tblWoodstoves	NumberNoncatalytic	11.37	0.00

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2.0 Emissions Summary

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					
2021	4.2796	46.4584	31.4628	0.0635	8.8376	1.9866	10.8242	3.6401	1.8277	5.4677	0.0000	6,158.2296	6,158.2296	1.9473	0.0000	6,206.9121
2022	35.7036	16.3926	17.1522	0.0305	0.2364	0.8125	1.0488	0.0638	0.7644	0.8282	0.0000	2,923.4612	2,923.4612	0.7170	0.0000	2,939.3118
Maximum	35.7036	46.4584	31.4628	0.0635	8.8376	1.9866	10.8242	3.6401	1.8277	5.4677	0.0000	6,158.2296	6,158.2296	1.9473	0.0000	6,206.9121

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					
2021	4.2796	46.4584	31.4628	0.0635	3.5469	1.9866	5.5335	1.4462	1.8277	3.2739	0.0000	6,158.2296	6,158.2296	1.9473	0.0000	6,206.9121
2022	35.7036	16.3926	17.1522	0.0305	0.2364	0.8125	1.0488	0.0638	0.7644	0.8282	0.0000	2,923.4612	2,923.4612	0.7170	0.0000	2,939.3118
Maximum	35.7036	46.4584	31.4628	0.0635	3.5469	1.9866	5.5335	1.4462	1.8277	3.2739	0.0000	6,158.2296	6,158.2296	1.9473	0.0000	6,206.9121

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	58.31	0.00	44.56	59.23	0.00	34.85	0.00	0.00	0.00	0.00	0.00	0.00

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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	2.8456	0.6348	5.4478	3.9400e-003		0.0752	0.0752		0.0752	0.0752	0.0000	743.1235	743.1235	0.0231	0.0135	747.7096
Energy	0.0487	0.4159	0.1770	2.6500e-003		0.0336	0.0336		0.0336	0.0336		530.9106	530.9106	0.0102	9.7300e-003	534.0655
Mobile	1.0159	3.8546	13.5052	0.0379	3.6382	0.0360	3.6742	0.9711	0.0335	1.0046		3,824.415 1	3,824.415 1	0.2280		3,830.116 1
Total	3.9102	4.9053	19.1299	0.0444	3.6382	0.1448	3.7831	0.9711	0.1424	1.1134	0.0000	5,098.449 2	5,098.449 2	0.2613	0.0232	5,111.891 3

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	2.8456	0.6348	5.4478	3.9400e-003		0.0752	0.0752		0.0752	0.0752	0.0000	743.1235	743.1235	0.0231	0.0135	747.7096
Energy	0.0458	0.3909	0.1664	2.5000e-003		0.0316	0.0316		0.0316	0.0316		499.0389	499.0389	9.5600e-003	9.1500e-003	502.0044
Mobile	0.9941	3.7006	12.8273	0.0354	3.3872	0.0338	3.4210	0.9041	0.0315	0.9356		3,577.164 2	3,577.164 2	0.2175		3,582.600 6
Total	3.8854	4.7263	18.4414	0.0419	3.3872	0.1406	3.5278	0.9041	0.1383	1.0424	0.0000	4,819.326 6	4,819.326 6	0.2501	0.0226	4,832.314 6

TSM 2020-01 - Madera County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.63	3.65	3.60	5.83	6.90	2.90	6.75	6.90	2.84	6.38	0.00	5.47	5.47	4.29	2.50	5.47

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2021	2/11/2021	5	30	
2	Building Construction	Building Construction	2/12/2021	4/7/2022	5	300	
3	Paving	Paving	4/8/2022	5/5/2022	5	20	
4	Architectural Coating	Architectural Coating	5/6/2022	6/2/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 229,635; Residential Outdoor: 76,545; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

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
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	23.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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3.2 Grading - 2021

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.043 4	6,007.043 4	1.9428		6,055.613 4
Total	4.1912	46.3998	30.8785	0.0620	8.6733	1.9853	10.6587	3.5965	1.8265	5.4230		6,007.043 4	6,007.043 4	1.9428		6,055.613 4

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
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
Worker	0.0885	0.0586	0.5844	1.5200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		151.1862	151.1862	4.5000e-003		151.2987
Total	0.0885	0.0586	0.5844	1.5200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		151.1862	151.1862	4.5000e-003		151.2987

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3.2 Grading - 2021

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					3.3826	0.0000	3.3826	1.4026	0.0000	1.4026			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.043 4	6,007.043 4	1.9428		6,055.613 4
Total	4.1912	46.3998	30.8785	0.0620	3.3826	1.9853	5.3679	1.4026	1.8265	3.2292	0.0000	6,007.043 4	6,007.043 4	1.9428		6,055.613 4

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
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
Worker	0.0885	0.0586	0.5844	1.5200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		151.1862	151.1862	4.5000e-003		151.2987
Total	0.0885	0.0586	0.5844	1.5200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		151.1862	151.1862	4.5000e-003		151.2987

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3.3 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

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
Vendor	0.0263	0.7579	0.1958	1.9500e-003	0.0475	2.3600e-003	0.0498	0.0137	2.2600e-003	0.0159		203.4323	203.4323	0.0178		203.8769
Worker	0.1017	0.0674	0.6720	1.7500e-003	0.1889	1.4300e-003	0.1904	0.0501	1.3200e-003	0.0514		173.8641	173.8641	5.1700e-003		173.9935
Total	0.1280	0.8253	0.8679	3.7000e-003	0.2364	3.7900e-003	0.2402	0.0638	3.5800e-003	0.0674		377.2965	377.2965	0.0230		377.8704

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3.3 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

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
Vendor	0.0263	0.7579	0.1958	1.9500e-003	0.0475	2.3600e-003	0.0498	0.0137	2.2600e-003	0.0159		203.4323	203.4323	0.0178		203.8769
Worker	0.1017	0.0674	0.6720	1.7500e-003	0.1889	1.4300e-003	0.1904	0.0501	1.3200e-003	0.0514		173.8641	173.8641	5.1700e-003		173.9935
Total	0.1280	0.8253	0.8679	3.7000e-003	0.2364	3.7900e-003	0.2402	0.0638	3.5800e-003	0.0674		377.2965	377.2965	0.0230		377.8704

TSM 2020-01 - Madera County, Winter

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0242	0.7168	0.1768	1.9300e-003	0.0475	2.0500e-003	0.0495	0.0137	1.9600e-003	0.0156		201.5449	201.5449	0.0175		201.9816
Worker	0.0941	0.0602	0.6120	1.6800e-003	0.1889	1.3800e-003	0.1903	0.0501	1.2700e-003	0.0514		167.5828	167.5828	4.6100e-003		167.6980
Total	0.1183	0.7770	0.7888	3.6100e-003	0.2364	3.4300e-003	0.2398	0.0638	3.2300e-003	0.0670		369.1276	369.1276	0.0221		369.6796

TSM 2020-01 - Madera County, Winter

3.3 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0242	0.7168	0.1768	1.9300e-003	0.0475	2.0500e-003	0.0495	0.0137	1.9600e-003	0.0156		201.5449	201.5449	0.0175		201.9816
Worker	0.0941	0.0602	0.6120	1.6800e-003	0.1889	1.3800e-003	0.1903	0.0501	1.2700e-003	0.0514		167.5828	167.5828	4.6100e-003		167.6980
Total	0.1183	0.7770	0.7888	3.6100e-003	0.2364	3.4300e-003	0.2398	0.0638	3.2300e-003	0.0670		369.1276	369.1276	0.0221		369.6796

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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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104

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
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
Worker	0.0614	0.0392	0.3992	1.1000e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		109.2931	109.2931	3.0100e-003		109.3683
Total	0.0614	0.0392	0.3992	1.1000e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		109.2931	109.2931	3.0100e-003		109.3683

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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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.660 3	2,207.660 3	0.7140		2,225.510 4

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
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
Worker	0.0614	0.0392	0.3992	1.1000e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		109.2931	109.2931	3.0100e-003		109.3683
Total	0.0614	0.0392	0.3992	1.1000e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		109.2931	109.2931	3.0100e-003		109.3683

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3.5 Architectural Coating - 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					
Archit. Coating	35.4786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	35.6832	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062

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
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
Worker	0.0205	0.0131	0.1331	3.7000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		36.4310	36.4310	1.0000e-003		36.4561
Total	0.0205	0.0131	0.1331	3.7000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		36.4310	36.4310	1.0000e-003		36.4561

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3.5 Architectural Coating - 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					
Archit. Coating	35.4786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	35.6832	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062

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
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
Worker	0.0205	0.0131	0.1331	3.7000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		36.4310	36.4310	1.0000e-003		36.4561
Total	0.0205	0.0131	0.1331	3.7000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		36.4310	36.4310	1.0000e-003		36.4561

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.9941	3.7006	12.8273	0.0354	3.3872	0.0338	3.4210	0.9041	0.0315	0.9356		3,577.164 2	3,577.164 2	0.2175		3,582.600 6
Unmitigated	1.0159	3.8546	13.5052	0.0379	3.6382	0.0360	3.6742	0.9711	0.0335	1.0046		3,824.415 1	3,824.415 1	0.2280		3,830.116 1

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	594.72	601.02	535.50	1,680,598	1,564,637
Total	594.72	601.02	535.50	1,680,598	1,564,637

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.534300	0.203000	0.167300	0.054500	0.001300	0.000900	0.008600	0.020700	0.000000	0.004400	0.002500	0.000700	0.001800

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive 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	0.0458	0.3909	0.1664	2.5000e-003		0.0316	0.0316		0.0316	0.0316		499.0389	499.0389	9.5600e-003	9.1500e-003	502.0044
NaturalGas Unmitigated	0.0487	0.4159	0.1770	2.6500e-003		0.0336	0.0336		0.0336	0.0336		530.9106	530.9106	0.0102	9.7300e-003	534.0655

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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					
Single Family Housing	4512.74	0.0487	0.4159	0.1770	2.6500e-003		0.0336	0.0336		0.0336	0.0336		530.9106	530.9106	0.0102	9.7300e-003	534.0655
Total		0.0487	0.4159	0.1770	2.6500e-003		0.0336	0.0336		0.0336	0.0336		530.9106	530.9106	0.0102	9.7300e-003	534.0655

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					
Single Family Housing	4.24183	0.0458	0.3909	0.1664	2.5000e-003		0.0316	0.0316		0.0316	0.0316		499.0389	499.0389	9.5600e-003	9.1500e-003	502.0044
Total		0.0458	0.3909	0.1664	2.5000e-003		0.0316	0.0316		0.0316	0.0316		499.0389	499.0389	9.5600e-003	9.1500e-003	502.0044

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8456	0.6348	5.4478	3.9400e-003		0.0752	0.0752		0.0752	0.0752	0.0000	743.1235	743.1235	0.0231	0.0135	747.7096
Unmitigated	2.8456	0.6348	5.4478	3.9400e-003		0.0752	0.0752		0.0752	0.0752	0.0000	743.1235	743.1235	0.0231	0.0135	747.7096

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	0.1944					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.4268					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0673	0.5748	0.2446	3.6700e-003		0.0465	0.0465		0.0465	0.0465	0.0000	733.7647	733.7647	0.0141	0.0135	738.1251
Landscaping	0.1572	0.0600	5.2032	2.7000e-004		0.0288	0.0288		0.0288	0.0288		9.3588	9.3588	9.0300e-003		9.5845
Total	2.8456	0.6348	5.4478	3.9400e-003		0.0752	0.0752		0.0752	0.0752	0.0000	743.1235	743.1235	0.0231	0.0135	747.7096

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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	0.1944					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.4268					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0673	0.5748	0.2446	3.6700e-003		0.0465	0.0465		0.0465	0.0465	0.0000	733.7647	733.7647	0.0141	0.0135	738.1251
Landscaping	0.1572	0.0600	5.2032	2.7000e-004		0.0288	0.0288		0.0288	0.0288		9.3588	9.3588	9.0300e-003		9.5845
Total	2.8456	0.6348	5.4478	3.9400e-003		0.0752	0.0752		0.0752	0.0752	0.0000	743.1235	743.1235	0.0231	0.0135	747.7096

7.0 Water Detail

7.1 Mitigation Measures Water

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
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10.0 Stationary Equipment

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Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

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

Equipment Type	Number
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11.0 Vegetation

TSM 2020-01 - Madera County, Summer

TSM 2020-01
Madera County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	63.00	Dwelling Unit	11.37	113,400.00	244

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.9	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

TSM 2020-01 - Madera County, Summer

Project Characteristics - PG&E Intensity Factor

Land Use - Lot Acreage based on gross acreage.

Population based on rate of 3.87 per household (2015 Housing Element)

Construction Phase - No demolition or site preparation required

Grading - Assumed site will be balanced (no net fill)

Architectural Coating - Architectural coatings will occur in Year 2022 or later. SJVAPCD Rule 4601 Year 2022+ VOC emissions apply.

Vehicle Trips - ITE 10th Edition Rates Used

Fleet Mix - SJVAPCD 2022 Residential Fleet Mix used

Area Coating - Reapplication of architectural coatings will occur in 2022 or later. SJVAPCD Rule 4601 Year 2022 VOC emissions apply.

Energy Use -

Solid Waste - Per CalRecycle solid waste generation is 15.1 pounds per household per day.

Construction Off-road Equipment Mitigation - Watering and vehicle speed reductions required per SJVAPCD Rule 8021

Mobile Land Use Mitigation - Project proposes 5 intersections across 11.37 acres, equivalent to 281.42 intersections per mile. Distance to downtown is 1.8 miles. Distance to a transit stop is 1.0 miles. Project is required to construct sidewalks on site and connecting off-site.

Energy Mitigation - 2019 Title 24 is 7% more efficient than 2016 Title 24 standard (https://www.energy.ca.gov/sites/default/files/2020-05/2019_Energy_Code_Residential_Updates_ada.pdf)

kWh Generated based on 2019 Title 24. Assuming average floor area of 1,800 square feet. Total Solar kilowatts assumed is 196.5096. Kilowatt-hours output using PVwatts.

Woodstoves - No woodstoves per SJVAPCD Rule 4901

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	150	50
tblAreaCoating	Area_EF_Residential_Interior	150	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	PhaseEndDate	7/14/2022	6/2/2022
tblConstructionPhase	PhaseEndDate	5/19/2022	4/7/2022
tblConstructionPhase	PhaseEndDate	3/25/2021	2/11/2021
tblConstructionPhase	PhaseEndDate	6/16/2022	5/5/2022

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tblConstructionPhase	PhaseStartDate	6/17/2022	5/6/2022
tblConstructionPhase	PhaseStartDate	3/26/2021	2/12/2021
tblConstructionPhase	PhaseStartDate	2/12/2021	1/1/2021
tblConstructionPhase	PhaseStartDate	5/20/2022	4/8/2022
tblFleetMix	HHD	0.10	0.02
tblFleetMix	LDA	0.53	0.53
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.3000e-003
tblFleetMix	LHD2	5.4560e-003	9.0000e-004
tblFleetMix	MCY	7.1390e-003	2.5000e-003
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MH	9.4900e-004	1.8000e-003
tblFleetMix	MHD	0.01	8.6000e-003
tblFleetMix	OBUS	2.7350e-003	0.00
tblFleetMix	SBUS	1.2430e-003	7.0000e-004
tblFleetMix	UBUS	1.7040e-003	4.4000e-003
tblLandUse	LotAcreage	20.45	11.37
tblLandUse	Population	180.00	244.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblSolidWaste	SolidWasteGenerationRate	87.84	173.53
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.50
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	11.37	0.00
tblWoodstoves	NumberNoncatalytic	11.37	0.00

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2.0 Emissions Summary

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					
2021	4.2859	46.4489	31.5626	0.0637	8.8376	1.9866	10.8242	3.6401	1.8277	5.4677	0.0000	6,178.388 1	6,178.388 1	1.9479	0.0000	6,227.086 1
2022	35.7051	16.3772	17.2336	0.0308	0.2364	0.8124	1.0488	0.0638	0.7643	0.8281	0.0000	2,952.469 7	2,952.469 7	0.7174	0.0000	2,968.285 6
Maximum	35.7051	46.4489	31.5626	0.0637	8.8376	1.9866	10.8242	3.6401	1.8277	5.4677	0.0000	6,178.388 1	6,178.388 1	1.9479	0.0000	6,227.086 1

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					
2021	4.2859	46.4489	31.5626	0.0637	3.5469	1.9866	5.5335	1.4462	1.8277	3.2739	0.0000	6,178.388 1	6,178.388 1	1.9479	0.0000	6,227.086 1
2022	35.7051	16.3772	17.2336	0.0308	0.2364	0.8124	1.0488	0.0638	0.7643	0.8281	0.0000	2,952.469 7	2,952.469 7	0.7174	0.0000	2,968.285 6
Maximum	35.7051	46.4489	31.5626	0.0637	3.5469	1.9866	5.5335	1.4462	1.8277	3.2739	0.0000	6,178.388 1	6,178.388 1	1.9479	0.0000	6,227.086 1

TSM 2020-01 - Madera County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	58.31	0.00	44.56	59.23	0.00	34.85	0.00	0.00	0.00	0.00	0.00	0.00

TSM 2020-01 - Madera County, Summer

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	2.8456	0.6348	5.4478	3.9400e-003		0.0752	0.0752		0.0752	0.0752	0.0000	743.1235	743.1235	0.0231	0.0135	747.7096
Energy	0.0487	0.4159	0.1770	2.6500e-003		0.0336	0.0336		0.0336	0.0336		530.9106	530.9106	0.0102	9.7300e-003	534.0655
Mobile	1.4328	3.6234	14.9673	0.0422	3.6382	0.0358	3.6740	0.9711	0.0333	1.0044		4,256.2424	4,256.2424	0.2303		4,261.9996
Total	4.3270	4.6740	20.5920	0.0488	3.6382	0.1446	3.7828	0.9711	0.1421	1.1132	0.0000	5,530.2765	5,530.2765	0.2636	0.0232	5,543.7748

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	2.8456	0.6348	5.4478	3.9400e-003		0.0752	0.0752		0.0752	0.0752	0.0000	743.1235	743.1235	0.0231	0.0135	747.7096
Energy	0.0458	0.3909	0.1664	2.5000e-003		0.0316	0.0316		0.0316	0.0316		499.0389	499.0389	9.5600e-003	9.1500e-003	502.0044
Mobile	1.4087	3.4863	14.1038	0.0395	3.3872	0.0336	3.4207	0.9041	0.0313	0.9353		3,980.8175	3,980.8175	0.2187		3,986.2846
Total	4.3000	4.5120	19.7180	0.0459	3.3872	0.1404	3.5276	0.9041	0.1381	1.0422	0.0000	5,222.9799	5,222.9799	0.2513	0.0226	5,235.9986

TSM 2020-01 - Madera County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.62	3.47	4.24	5.91	6.90	2.90	6.75	6.90	2.84	6.38	0.00	5.56	5.56	4.64	2.50	5.55

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2021	2/11/2021	5	30	
2	Building Construction	Building Construction	2/12/2021	4/7/2022	5	300	
3	Paving	Paving	4/8/2022	5/5/2022	5	20	
4	Architectural Coating	Architectural Coating	5/6/2022	6/2/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 229,635; Residential Outdoor: 76,545; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

TSM 2020-01 - Madera County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

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
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	23.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

TSM 2020-01 - Madera County, Summer

3.2 Grading - 2021

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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.043 4	6,007.043 4	1.9428		6,055.613 4
Total	4.1912	46.3998	30.8785	0.0620	8.6733	1.9853	10.6587	3.5965	1.8265	5.4230		6,007.043 4	6,007.043 4	1.9428		6,055.613 4

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
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
Worker	0.0948	0.0491	0.6841	1.7200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		171.3446	171.3446	5.1200e-003		171.4726
Total	0.0948	0.0491	0.6841	1.7200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		171.3446	171.3446	5.1200e-003		171.4726

TSM 2020-01 - Madera County, Summer

3.2 Grading - 2021

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					3.3826	0.0000	3.3826	1.4026	0.0000	1.4026			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.043 4	6,007.043 4	1.9428		6,055.613 4
Total	4.1912	46.3998	30.8785	0.0620	3.3826	1.9853	5.3679	1.4026	1.8265	3.2292	0.0000	6,007.043 4	6,007.043 4	1.9428		6,055.613 4

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
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
Worker	0.0948	0.0491	0.6841	1.7200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		171.3446	171.3446	5.1200e-003		171.4726
Total	0.0948	0.0491	0.6841	1.7200e-003	0.1643	1.2400e-003	0.1655	0.0436	1.1400e-003	0.0447		171.3446	171.3446	5.1200e-003		171.4726

TSM 2020-01 - Madera County, Summer

3.3 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

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
Vendor	0.0250	0.7507	0.1679	2.0100e-003	0.0475	2.2800e-003	0.0497	0.0137	2.1800e-003	0.0159		210.1191	210.1191	0.0158		210.5130
Worker	0.1090	0.0565	0.7867	1.9800e-003	0.1889	1.4300e-003	0.1904	0.0501	1.3200e-003	0.0514		197.0463	197.0463	5.8900e-003		197.1935
Total	0.1340	0.8072	0.9546	3.9900e-003	0.2364	3.7100e-003	0.2401	0.0638	3.5000e-003	0.0673		407.1655	407.1655	0.0216		407.7065

TSM 2020-01 - Madera County, Summer

3.3 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

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
Vendor	0.0250	0.7507	0.1679	2.0100e-003	0.0475	2.2800e-003	0.0497	0.0137	2.1800e-003	0.0159		210.1191	210.1191	0.0158		210.5130
Worker	0.1090	0.0565	0.7867	1.9800e-003	0.1889	1.4300e-003	0.1904	0.0501	1.3200e-003	0.0514		197.0463	197.0463	5.8900e-003		197.1935
Total	0.1340	0.8072	0.9546	3.9900e-003	0.2364	3.7100e-003	0.2401	0.0638	3.5000e-003	0.0673		407.1655	407.1655	0.0216		407.7065

TSM 2020-01 - Madera County, Summer

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0229	0.7111	0.1507	1.9900e-003	0.0475	1.9700e-003	0.0494	0.0137	1.8900e-003	0.0156		208.2153	208.2153	0.0154		208.6011
Worker	0.1008	0.0504	0.7195	1.9100e-003	0.1889	1.3800e-003	0.1903	0.0501	1.2700e-003	0.0514		189.9208	189.9208	5.2600e-003		190.0522
Total	0.1237	0.7616	0.8702	3.9000e-003	0.2364	3.3500e-003	0.2398	0.0638	3.1600e-003	0.0669		398.1362	398.1362	0.0207		398.6534

TSM 2020-01 - Madera County, Summer

3.3 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0229	0.7111	0.1507	1.9900e-003	0.0475	1.9700e-003	0.0494	0.0137	1.8900e-003	0.0156		208.2153	208.2153	0.0154		208.6011
Worker	0.1008	0.0504	0.7195	1.9100e-003	0.1889	1.3800e-003	0.1903	0.0501	1.2700e-003	0.0514		189.9208	189.9208	5.2600e-003		190.0522
Total	0.1237	0.7616	0.8702	3.9000e-003	0.2364	3.3500e-003	0.2398	0.0638	3.1600e-003	0.0669		398.1362	398.1362	0.0207		398.6534

TSM 2020-01 - Madera County, Summer

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104

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
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
Worker	0.0657	0.0329	0.4692	1.2400e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		123.8614	123.8614	3.4300e-003		123.9471
Total	0.0657	0.0329	0.4692	1.2400e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		123.8614	123.8614	3.4300e-003		123.9471

TSM 2020-01 - Madera County, Summer

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	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104

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
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
Worker	0.0657	0.0329	0.4692	1.2400e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		123.8614	123.8614	3.4300e-003		123.9471
Total	0.0657	0.0329	0.4692	1.2400e-003	0.1232	9.0000e-004	0.1241	0.0327	8.3000e-004	0.0335		123.8614	123.8614	3.4300e-003		123.9471

TSM 2020-01 - Madera County, Summer

3.5 Architectural Coating - 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					
Archit. Coating	35.4786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	35.6832	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062

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
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
Worker	0.0219	0.0110	0.1564	4.1000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		41.2871	41.2871	1.1400e-003		41.3157
Total	0.0219	0.0110	0.1564	4.1000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		41.2871	41.2871	1.1400e-003		41.3157

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3.5 Architectural Coating - 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					
Archit. Coating	35.4786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	35.6832	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062

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
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
Worker	0.0219	0.0110	0.1564	4.1000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		41.2871	41.2871	1.1400e-003		41.3157
Total	0.0219	0.0110	0.1564	4.1000e-004	0.0411	3.0000e-004	0.0414	0.0109	2.8000e-004	0.0112		41.2871	41.2871	1.1400e-003		41.3157

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

Improve Walkability Design

Improve Destination Accessibility

Increase Transit Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.4087	3.4863	14.1038	0.0395	3.3872	0.0336	3.4207	0.9041	0.0313	0.9353		3,980.8175	3,980.8175	0.2187		3,986.2846
Unmitigated	1.4328	3.6234	14.9673	0.0422	3.6382	0.0358	3.6740	0.9711	0.0333	1.0044		4,256.2424	4,256.2424	0.2303		4,261.9996

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	594.72	601.02	535.50	1,680,598	1,564,637
Total	594.72	601.02	535.50	1,680,598	1,564,637

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.534300	0.203000	0.167300	0.054500	0.001300	0.000900	0.008600	0.020700	0.000000	0.004400	0.002500	0.000700	0.001800

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive 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	0.0458	0.3909	0.1664	2.5000e-003		0.0316	0.0316		0.0316	0.0316		499.0389	499.0389	9.5600e-003	9.1500e-003	502.0044
NaturalGas Unmitigated	0.0487	0.4159	0.1770	2.6500e-003		0.0336	0.0336		0.0336	0.0336		530.9106	530.9106	0.0102	9.7300e-003	534.0655

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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					
Single Family Housing	4512.74	0.0487	0.4159	0.1770	2.6500e-003		0.0336	0.0336		0.0336	0.0336		530.9106	530.9106	0.0102	9.7300e-003	534.0655
Total		0.0487	0.4159	0.1770	2.6500e-003		0.0336	0.0336		0.0336	0.0336		530.9106	530.9106	0.0102	9.7300e-003	534.0655

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					
Single Family Housing	4.24183	0.0458	0.3909	0.1664	2.5000e-003		0.0316	0.0316		0.0316	0.0316		499.0389	499.0389	9.5600e-003	9.1500e-003	502.0044
Total		0.0458	0.3909	0.1664	2.5000e-003		0.0316	0.0316		0.0316	0.0316		499.0389	499.0389	9.5600e-003	9.1500e-003	502.0044

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8456	0.6348	5.4478	3.9400e-003		0.0752	0.0752		0.0752	0.0752	0.0000	743.1235	743.1235	0.0231	0.0135	747.7096
Unmitigated	2.8456	0.6348	5.4478	3.9400e-003		0.0752	0.0752		0.0752	0.0752	0.0000	743.1235	743.1235	0.0231	0.0135	747.7096

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	0.1944					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.4268					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0673	0.5748	0.2446	3.6700e-003		0.0465	0.0465		0.0465	0.0465	0.0000	733.7647	733.7647	0.0141	0.0135	738.1251
Landscaping	0.1572	0.0600	5.2032	2.7000e-004		0.0288	0.0288		0.0288	0.0288		9.3588	9.3588	9.0300e-003		9.5845
Total	2.8456	0.6348	5.4478	3.9400e-003		0.0752	0.0752		0.0752	0.0752	0.0000	743.1235	743.1235	0.0231	0.0135	747.7096

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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	0.1944					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.4268					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0673	0.5748	0.2446	3.6700e-003		0.0465	0.0465		0.0465	0.0465	0.0000	733.7647	733.7647	0.0141	0.0135	738.1251
Landscaping	0.1572	0.0600	5.2032	2.7000e-004		0.0288	0.0288		0.0288	0.0288		9.3588	9.3588	9.0300e-003		9.5845
Total	2.8456	0.6348	5.4478	3.9400e-003		0.0752	0.0752		0.0752	0.0752	0.0000	743.1235	743.1235	0.0231	0.0135	747.7096

7.0 Water Detail

7.1 Mitigation Measures Water

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
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10.0 Stationary Equipment

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Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

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

Equipment Type	Number
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11.0 Vegetation

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	63.00	Dwelling Unit	11.37	113,400.00	244

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.9	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2005
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - PG&E Intensity Factor

Land Use - Lot Acreage based on gross acreage.

Population based on rate of 3.87 per household (2015 Housing Element)

Construction Phase - No demolition or site preparation required

Grading - Assumed site will be balanced (no net fill)

Architectural Coating -

Vehicle Trips - ITE 10th Edition Rates Used

Fleet Mix -

Area Coating -

Energy Use -

Solid Waste -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Project proposes 5 intersections across 11.37 acres, equivalent to 281.42 intersections per mile. Distance to downtown is 1.8 miles. Distance to a transit stop is 1.0 miles. Project is required to construct sidewalks on site and connecting off-site.

Energy Mitigation -

Woodstoves -

Vehicle Emission Factors -

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Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	150.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	150
tblAreaCoating	Area_EF_Residential_Interior	250	150
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblLandUse	LotAcreage	20.45	11.37
tblLandUse	Population	180.00	244.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.50
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2005	3-31-2005	2.6352	2.6352
2	4-1-2005	6-30-2005	1.7000	1.7000
3	7-1-2005	9-30-2005	1.7187	1.7187
4	10-1-2005	12-31-2005	1.7233	1.7233
5	1-1-2006	3-31-2006	1.6859	1.6859
6	4-1-2006	6-30-2006	1.7267	1.7267
		Highest	2.6352	2.6352

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	0.8073	0.0653	2.6569	7.0400e-003		0.3475	0.3475		0.3475	0.3475	45.9658	28.0562	74.0219	0.2166	5.0000e-004	79.5867
Energy	8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	248.4600	248.4600	8.9400e-003	3.1100e-003	249.6115
Mobile	1.2206	6.8522	12.9395	0.0492	0.6395	0.1589	0.7984	0.1724	0.1516	0.3240	0.0000	1,098.4186	1,098.4186	0.1778	0.0000	1,102.8622
Waste						0.0000	0.0000		0.0000	0.0000	17.8307	0.0000	17.8307	1.0538	0.0000	44.1749
Water						0.0000	0.0000		0.0000	0.0000	1.3022	9.0961	10.3984	0.1342	3.2400e-003	14.7189
Total	2.0368	6.9934	15.6287	0.0568	0.6395	0.5125	1.1520	0.1724	0.5052	0.6776	65.0987	1,384.0309	1,449.1296	1.5913	6.8500e-003	1,490.9542

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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	0.8073	0.0653	2.6569	7.0400e-003		0.3475	0.3475		0.3475	0.3475	45.9658	28.0562	74.0219	0.2166	5.0000e-004	79.5867
Energy	8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	248.4600	248.4600	8.9400e-003	3.1100e-003	249.6115
Mobile	1.1788	6.5189	12.2887	0.0465	0.5954	0.1498	0.7452	0.1605	0.1429	0.3034	0.0000	1,030.6246	1,030.6246	0.1711	0.0000	1,034.9024
Waste						0.0000	0.0000		0.0000	0.0000	17.8307	0.0000	17.8307	1.0538	0.0000	44.1749
Water						0.0000	0.0000		0.0000	0.0000	1.3022	9.0961	10.3984	0.1342	3.2400e-003	14.7189
Total	1.9949	6.6601	14.9778	0.0540	0.5954	0.5034	1.0988	0.1605	0.4966	0.6571	65.0987	1,316.2369	1,381.3357	1.5846	6.8500e-003	1,422.9944

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	2.06	4.77	4.16	4.81	6.90	1.77	4.62	6.90	1.72	3.04	0.00	4.90	4.68	0.42	0.00	4.56

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2005	2/11/2005	5	30	
2	Building Construction	Building Construction	2/12/2005	4/7/2006	5	300	
3	Paving	Paving	4/8/2006	5/5/2006	5	20	
4	Architectural Coating	Architectural Coating	5/6/2006	6/2/2006	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 229,635; Residential Outdoor: 76,545; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

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
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	23.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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3.2 Grading - 2005

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1807	1.5445	0.6913	0.0103		0.0785	0.0785		0.0785	0.0785	0.0000	98.1544	98.1544	0.0147	0.0000	98.5224
Total	0.1807	1.5445	0.6913	0.0103	0.1301	0.0785	0.2086	0.0540	0.0785	0.1325	0.0000	98.1544	98.1544	0.0147	0.0000	98.5224

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	5.1900e-003	4.8200e-003	0.0467	3.0000e-005	2.3900e-003	7.0000e-005	2.4500e-003	6.4000e-004	6.0000e-005	7.0000e-004	0.0000	2.5914	2.5914	3.7000e-004	0.0000	2.6008
Total	5.1900e-003	4.8200e-003	0.0467	3.0000e-005	2.3900e-003	7.0000e-005	2.4500e-003	6.4000e-004	6.0000e-005	7.0000e-004	0.0000	2.5914	2.5914	3.7000e-004	0.0000	2.6008

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3.2 Grading - 2005

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1807	1.5445	0.6913	0.0103		0.0785	0.0785		0.0785	0.0785	0.0000	98.1543	98.1543	0.0147	0.0000	98.5223
Total	0.1807	1.5445	0.6913	0.0103	0.1301	0.0785	0.2086	0.0540	0.0785	0.1325	0.0000	98.1543	98.1543	0.0147	0.0000	98.5223

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	5.1900e-003	4.8200e-003	0.0467	3.0000e-005	2.3900e-003	7.0000e-005	2.4500e-003	6.4000e-004	6.0000e-005	7.0000e-004	0.0000	2.5914	2.5914	3.7000e-004	0.0000	2.6008
Total	5.1900e-003	4.8200e-003	0.0467	3.0000e-005	2.3900e-003	7.0000e-005	2.4500e-003	6.4000e-004	6.0000e-005	7.0000e-004	0.0000	2.5914	2.5914	3.7000e-004	0.0000	2.6008

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3.3 Building Construction - 2005

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	0.8643	4.7662	2.3446	0.0350		0.4002	0.4002		0.4002	0.4002	0.0000	302.2902	302.2902	0.0705	0.0000	304.0537
Total	0.8643	4.7662	2.3446	0.0350		0.4002	0.4002		0.4002	0.4002	0.0000	302.2902	302.2902	0.0705	0.0000	304.0537

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	0.0303	0.2730	0.2030	2.0200e-003	5.3200e-003	7.9200e-003	0.0132	1.5400e-003	7.5700e-003	9.1100e-003	0.0000	22.1901	22.1901	4.2700e-003	0.0000	22.2968
Worker	0.0458	0.0425	0.4117	2.6000e-004	0.0211	5.7000e-004	0.0216	5.6000e-003	5.3000e-004	6.1300e-003	0.0000	22.8479	22.8479	3.2900e-003	0.0000	22.9301
Total	0.0760	0.3154	0.6147	2.2800e-003	0.0264	8.4900e-003	0.0349	7.1400e-003	8.1000e-003	0.0152	0.0000	45.0380	45.0380	7.5600e-003	0.0000	45.2270

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3.3 Building Construction - 2005

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	0.8643	4.7662	2.3446	0.0350		0.4002	0.4002		0.4002	0.4002	0.0000	302.2898	302.2898	0.0705	0.0000	304.0533
Total	0.8643	4.7662	2.3446	0.0350		0.4002	0.4002		0.4002	0.4002	0.0000	302.2898	302.2898	0.0705	0.0000	304.0533

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	0.0303	0.2730	0.2030	2.0200e-003	5.3200e-003	7.9200e-003	0.0132	1.5400e-003	7.5700e-003	9.1100e-003	0.0000	22.1901	22.1901	4.2700e-003	0.0000	22.2968
Worker	0.0458	0.0425	0.4117	2.6000e-004	0.0211	5.7000e-004	0.0216	5.6000e-003	5.3000e-004	6.1300e-003	0.0000	22.8479	22.8479	3.2900e-003	0.0000	22.9301
Total	0.0760	0.3154	0.6147	2.2800e-003	0.0264	8.4900e-003	0.0349	7.1400e-003	8.1000e-003	0.0152	0.0000	45.0380	45.0380	7.5600e-003	0.0000	45.2270

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3.3 Building Construction - 2006

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	0.2631	1.4506	0.7136	0.0106		0.1218	0.1218		0.1218	0.1218	0.0000	92.0014	92.0014	0.0215	0.0000	92.5381
Total	0.2631	1.4506	0.7136	0.0106		0.1218	0.1218		0.1218	0.1218	0.0000	92.0014	92.0014	0.0215	0.0000	92.5381

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	9.2100e-003	0.0831	0.0618	6.1000e-004	1.6200e-003	2.4100e-003	4.0300e-003	4.7000e-004	2.3100e-003	2.7700e-003	0.0000	6.7535	6.7535	1.3000e-003	0.0000	6.7860
Worker	0.0139	0.0129	0.1253	8.0000e-005	6.4100e-003	1.7000e-004	6.5900e-003	1.7000e-003	1.6000e-004	1.8700e-003	0.0000	6.9537	6.9537	1.0000e-003	0.0000	6.9787
Total	0.0231	0.0960	0.1871	6.9000e-004	8.0300e-003	2.5800e-003	0.0106	2.1700e-003	2.4700e-003	4.6400e-003	0.0000	13.7072	13.7072	2.3000e-003	0.0000	13.7647

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3.3 Building Construction - 2006

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	0.2631	1.4506	0.7136	0.0106		0.1218	0.1218		0.1218	0.1218	0.0000	92.0013	92.0013	0.0215	0.0000	92.5380
Total	0.2631	1.4506	0.7136	0.0106		0.1218	0.1218		0.1218	0.1218	0.0000	92.0013	92.0013	0.0215	0.0000	92.5380

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	9.2100e-003	0.0831	0.0618	6.1000e-004	1.6200e-003	2.4100e-003	4.0300e-003	4.7000e-004	2.3100e-003	2.7700e-003	0.0000	6.7535	6.7535	1.3000e-003	0.0000	6.7860
Worker	0.0139	0.0129	0.1253	8.0000e-005	6.4100e-003	1.7000e-004	6.5900e-003	1.7000e-003	1.6000e-004	1.8700e-003	0.0000	6.9537	6.9537	1.0000e-003	0.0000	6.9787
Total	0.0231	0.0960	0.1871	6.9000e-004	8.0300e-003	2.5800e-003	0.0106	2.1700e-003	2.4700e-003	4.6400e-003	0.0000	13.7072	13.7072	2.3000e-003	0.0000	13.7647

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3.4 Paving - 2006

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	0.0579	0.4167	0.1800	2.7000e-003		0.0264	0.0264		0.0264	0.0264	0.0000	24.0995	24.0995	4.7200e-003	0.0000	24.2176
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0579	0.4167	0.1800	2.7000e-003		0.0264	0.0264		0.0264	0.0264	0.0000	24.0995	24.0995	4.7200e-003	0.0000	24.2176

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	2.6000e-003	2.4100e-003	0.0234	1.0000e-005	1.1900e-003	3.0000e-005	1.2300e-003	3.2000e-004	3.0000e-005	3.5000e-004	0.0000	1.2957	1.2957	1.9000e-004	0.0000	1.3004
Total	2.6000e-003	2.4100e-003	0.0234	1.0000e-005	1.1900e-003	3.0000e-005	1.2300e-003	3.2000e-004	3.0000e-005	3.5000e-004	0.0000	1.2957	1.2957	1.9000e-004	0.0000	1.3004

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3.4 Paving - 2006

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	0.0579	0.4167	0.1800	2.7000e-003		0.0264	0.0264		0.0264	0.0264	0.0000	24.0995	24.0995	4.7200e-003	0.0000	24.2175
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0579	0.4167	0.1800	2.7000e-003		0.0264	0.0264		0.0264	0.0264	0.0000	24.0995	24.0995	4.7200e-003	0.0000	24.2175

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	2.6000e-003	2.4100e-003	0.0234	1.0000e-005	1.1900e-003	3.0000e-005	1.2300e-003	3.2000e-004	3.0000e-005	3.5000e-004	0.0000	1.2957	1.2957	1.9000e-004	0.0000	1.3004
Total	2.6000e-003	2.4100e-003	0.0234	1.0000e-005	1.1900e-003	3.0000e-005	1.2300e-003	3.2000e-004	3.0000e-005	3.5000e-004	0.0000	1.2957	1.2957	1.9000e-004	0.0000	1.3004

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3.5 Architectural Coating - 2006

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	1.0644					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5200e-003	0.0428	0.0208	3.0000e-004		3.8400e-003	3.8400e-003		3.8400e-003	3.8400e-003	0.0000	2.5533	2.5533	6.2000e-004	0.0000	2.5686
Total	1.0719	0.0428	0.0208	3.0000e-004		3.8400e-003	3.8400e-003		3.8400e-003	3.8400e-003	0.0000	2.5533	2.5533	6.2000e-004	0.0000	2.5686

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	8.7000e-004	8.0000e-004	7.7800e-003	0.0000	4.0000e-004	1.0000e-005	4.1000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	0.4319	0.4319	6.0000e-005	0.0000	0.4335
Total	8.7000e-004	8.0000e-004	7.7800e-003	0.0000	4.0000e-004	1.0000e-005	4.1000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	0.4319	0.4319	6.0000e-005	0.0000	0.4335

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3.5 Architectural Coating - 2006

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	1.0644					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.5200e-003	0.0428	0.0208	3.0000e-004		3.8400e-003	3.8400e-003		3.8400e-003	3.8400e-003	0.0000	2.5533	2.5533	6.2000e-004	0.0000	2.5686
Total	1.0719	0.0428	0.0208	3.0000e-004		3.8400e-003	3.8400e-003		3.8400e-003	3.8400e-003	0.0000	2.5533	2.5533	6.2000e-004	0.0000	2.5686

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	8.7000e-004	8.0000e-004	7.7800e-003	0.0000	4.0000e-004	1.0000e-005	4.1000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	0.4319	0.4319	6.0000e-005	0.0000	0.4335
Total	8.7000e-004	8.0000e-004	7.7800e-003	0.0000	4.0000e-004	1.0000e-005	4.1000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	0.4319	0.4319	6.0000e-005	0.0000	0.4335

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

- Improve Walkability Design
- Improve Destination Accessibility
- Increase Transit Accessibility
- Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.1788	6.5189	12.2887	0.0465	0.5954	0.1498	0.7452	0.1605	0.1429	0.3034	0.0000	1,030.6246	1,030.6246	0.1711	0.0000	1,034.9024
Unmitigated	1.2206	6.8522	12.9395	0.0492	0.6395	0.1589	0.7984	0.1724	0.1516	0.3240	0.0000	1,098.4186	1,098.4186	0.1778	0.0000	1,102.8622

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	594.72	601.02	535.50	1,680,598	1,564,637
Total	594.72	601.02	535.50	1,680,598	1,564,637

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.406248	0.060884	0.165176	0.186546	0.051013	0.007949	0.016561	0.088777	0.003025	0.001372	0.008068	0.001532	0.002848

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	160.5618	160.5618	7.2600e-003	1.5000e-003	161.1909
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	160.5618	160.5618	7.2600e-003	1.5000e-003	161.1909
NaturalGas Mitigated	8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	87.8982	87.8982	1.6800e-003	1.6100e-003	88.4205
NaturalGas Unmitigated	8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	87.8982	87.8982	1.6800e-003	1.6100e-003	88.4205

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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					
Single Family Housing	1.64715e+006	8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	87.8982	87.8982	1.6800e-003	1.6100e-003	88.4205
Total		8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	87.8982	87.8982	1.6800e-003	1.6100e-003	88.4205

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					
Single Family Housing	1.64715e+006	8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	87.8982	87.8982	1.6800e-003	1.6100e-003	88.4205
Total		8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	87.8982	87.8982	1.6800e-003	1.6100e-003	88.4205

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	551927	160.5618	7.2600e-003	1.5000e-003	161.1909
Total		160.5618	7.2600e-003	1.5000e-003	161.1909

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	551927	160.5618	7.2600e-003	1.5000e-003	161.1909
Total		160.5618	7.2600e-003	1.5000e-003	161.1909

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8073	0.0653	2.6569	7.0400e-003		0.3475	0.3475		0.3475	0.3475	45.9658	28.0562	74.0219	0.2166	5.0000e-004	79.5867
Unmitigated	0.8073	0.0653	2.6569	7.0400e-003		0.3475	0.3475		0.3475	0.3475	45.9658	28.0562	74.0219	0.2166	5.0000e-004	79.5867

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	0.1064					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4429					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.2345	0.0579	2.1144	7.0200e-003		0.3452	0.3452		0.3452	0.3452	45.9658	27.2921	73.2578	0.2154	5.0000e-004	78.7920
Landscaping	0.0235	7.3800e-003	0.5425	2.0000e-005		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	0.7641	0.7641	1.2200e-003	0.0000	0.7947
Total	0.8073	0.0653	2.6569	7.0400e-003		0.3475	0.3475		0.3475	0.3475	45.9658	28.0562	74.0219	0.2166	5.0000e-004	79.5867

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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	0.1064					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4429					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.2345	0.0579	2.1144	7.0200e-003		0.3452	0.3452		0.3452	0.3452	45.9658	27.2921	73.2578	0.2154	5.0000e-004	78.7920
Landscaping	0.0235	7.3800e-003	0.5425	2.0000e-005		2.2900e-003	2.2900e-003		2.2900e-003	2.2900e-003	0.0000	0.7641	0.7641	1.2200e-003	0.0000	0.7947
Total	0.8073	0.0653	2.6569	7.0400e-003		0.3475	0.3475		0.3475	0.3475	45.9658	28.0562	74.0219	0.2166	5.0000e-004	79.5867

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	10.3984	0.1342	3.2400e-003	14.7189
Unmitigated	10.3984	0.1342	3.2400e-003	14.7189

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	4.1047 / 2.58775	10.3984	0.1342	3.2400e-003	14.7189
Total		10.3984	0.1342	3.2400e-003	14.7189

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	4.1047 / 2.58775	10.3984	0.1342	3.2400e-003	14.7189
Total		10.3984	0.1342	3.2400e-003	14.7189

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	17.8307	1.0538	0.0000	44.1749
Unmitigated	17.8307	1.0538	0.0000	44.1749

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	87.84	17.8307	1.0538	0.0000	44.1749
Total		17.8307	1.0538	0.0000	44.1749

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	87.84	17.8307	1.0538	0.0000	44.1749
Total		17.8307	1.0538	0.0000	44.1749

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

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

Equipment Type	Number
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11.0 Vegetation

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	63.00	Dwelling Unit	11.37	113,400.00	244

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.9	Precipitation Freq (Days)	51
Climate Zone	3			Operational Year	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - PG&E Intensity Factor

Land Use - Lot Acreage based on gross acreage.

Population based on rate of 3.87 per household (2015 Housing Element)

Construction Phase - No demolition or site preparation required

Grading - Assumed site will be balanced (no net fill)

Architectural Coating - Architectural coatings will occur in Year 2022 or later. SJVAPCD Rule 4601 Year 2022+ VOC emissions apply.

Vehicle Trips - ITE 10th Edition Rates Used

Fleet Mix - SJVAPCD 2030 Residential Fleet Mix used

Area Coating - Reapplication of architectural coatings will occur in 2022 or later. SJVAPCD Rule 4601 Year 2022 VOC emissions apply.

Energy Use -

Solid Waste - Per CalRecycle solid waste generation is 15.1 pounds per household per day.

Construction Off-road Equipment Mitigation - Watering and vehicle speed reductions required per SJVAPCD Rule 8021

Mobile Land Use Mitigation - Project proposes 5 intersections across 11.37 acres, equivalent to 281.42 intersections per mile. Distance to downtown is 1.8 miles. Distance to a transit stop is 1.0 miles. Project is required to construct sidewalks on site and connecting off-site.

Energy Mitigation - 2019 Title 24 is 7% more efficient than 2016 Title 24 standard (https://www.energy.ca.gov/sites/default/files/2020-05/2019_Energy_Code_Residential_Updates_ada.pdf)

kWh Generated based on 2019 Title 24. Assuming average floor area of 1,800 square feet. Total Solar kilowatts assumed is 196.5096. Kilowatt-hours output using PVwatts.

Woodstoves - No woodstoves per SJVAPCD Rule 4901

Vehicle Emission Factors -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	50.00
tblAreaCoating	Area_EF_Residential_Exterior	150	50
tblAreaCoating	Area_EF_Residential_Interior	150	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	PhaseEndDate	7/14/2022	6/2/2022
tblConstructionPhase	PhaseEndDate	5/19/2022	4/7/2022
tblConstructionPhase	PhaseEndDate	3/25/2021	2/11/2021

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tblConstructionPhase	PhaseEndDate	6/16/2022	5/5/2022
tblConstructionPhase	PhaseStartDate	6/17/2022	5/6/2022
tblConstructionPhase	PhaseStartDate	3/26/2021	2/12/2021
tblConstructionPhase	PhaseStartDate	2/12/2021	1/1/2021
tblConstructionPhase	PhaseStartDate	5/20/2022	4/8/2022
tblFleetMix	HHD	0.10	0.02
tblFleetMix	LDA	0.57	0.51
tblFleetMix	LDT1	0.03	0.22
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	8.0000e-004
tblFleetMix	LHD2	3.8520e-003	1.0000e-003
tblFleetMix	MCY	6.1600e-003	2.5000e-003
tblFleetMix	MDV	0.09	0.06
tblFleetMix	MH	5.6400e-004	3.0000e-003
tblFleetMix	MHD	0.01	7.4000e-003
tblFleetMix	OBUS	2.5590e-003	0.00
tblFleetMix	SBUS	1.1070e-003	1.2000e-003
tblFleetMix	UBUS	1.5000e-003	4.4000e-003
tblLandUse	LotAcreage	20.45	11.37
tblLandUse	Population	180.00	244.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblSolidWaste	SolidWasteGenerationRate	87.84	173.53
tblVehicleEF	HHD	1.41	1.72
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tblVehicleEF	HHD	0.05	0.06
tblVehicleEF	HHD	0.01	0.01
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tblVehicleEF	HHD	0.01	0.01
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tblVehicleEF	HHD	0.05	0.05
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tblVehicleEF	LDA	0.03	0.07
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tblVehicleEF	LDA	0.03	0.08
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tblVehicleEF	LDA	7.5860e-003	0.01
tblVehicleEF	LDA	0.06	0.11
tblVehicleEF	LDA	6.5530e-003	0.01
tblVehicleEF	LDA	5.9460e-003	0.01
tblVehicleEF	LDA	0.03	0.04
tblVehicleEF	LDA	0.03	0.09
tblVehicleEF	LDA	1.9840e-003	2.5450e-003
tblVehicleEF	LDA	4.4200e-004	6.0100e-004
tblVehicleEF	LDA	7.5860e-003	0.01
tblVehicleEF	LDA	0.06	0.11
tblVehicleEF	LDA	6.5530e-003	0.01
tblVehicleEF	LDA	8.6360e-003	0.02
tblVehicleEF	LDA	0.03	0.04

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tblVehicleEF	LDA	0.04	0.10
tblVehicleEF	LDT1	5.8320e-003	0.01
tblVehicleEF	LDT1	7.4390e-003	0.02
tblVehicleEF	LDT1	0.75	1.58
tblVehicleEF	LDT1	1.62	3.86
tblVehicleEF	LDT1	265.99	331.08
tblVehicleEF	LDT1	56.47	72.18
tblVehicleEF	LDT1	0.06	0.15
tblVehicleEF	LDT1	0.09	0.22
tblVehicleEF	LDT1	1.9820e-003	3.1150e-003
tblVehicleEF	LDT1	2.4970e-003	3.9000e-003
tblVehicleEF	LDT1	1.8230e-003	2.8690e-003
tblVehicleEF	LDT1	2.2960e-003	3.5870e-003
tblVehicleEF	LDT1	0.11	0.21
tblVehicleEF	LDT1	0.20	0.38
tblVehicleEF	LDT1	0.07	0.13
tblVehicleEF	LDT1	0.01	0.03
tblVehicleEF	LDT1	0.12	0.23
tblVehicleEF	LDT1	0.10	0.27
tblVehicleEF	LDT1	2.6670e-003	3.3310e-003
tblVehicleEF	LDT1	5.9200e-004	7.9000e-004
tblVehicleEF	LDT1	0.11	0.21
tblVehicleEF	LDT1	0.20	0.38
tblVehicleEF	LDT1	0.07	0.13
tblVehicleEF	LDT1	0.02	0.05
tblVehicleEF	LDT1	0.12	0.23
tblVehicleEF	LDT1	0.11	0.29

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tblVehicleEF	LDT1	6.6510e-003	0.02
tblVehicleEF	LDT1	6.0900e-003	0.02
tblVehicleEF	LDT1	0.91	1.92
tblVehicleEF	LDT1	1.32	3.14
tblVehicleEF	LDT1	290.95	361.65
tblVehicleEF	LDT1	56.47	72.18
tblVehicleEF	LDT1	0.06	0.14
tblVehicleEF	LDT1	0.08	0.20
tblVehicleEF	LDT1	1.9820e-003	3.1150e-003
tblVehicleEF	LDT1	2.4970e-003	3.9000e-003
tblVehicleEF	LDT1	1.8230e-003	2.8690e-003
tblVehicleEF	LDT1	2.2960e-003	3.5870e-003
tblVehicleEF	LDT1	0.26	0.50
tblVehicleEF	LDT1	0.25	0.48
tblVehicleEF	LDT1	0.16	0.30
tblVehicleEF	LDT1	0.02	0.04
tblVehicleEF	LDT1	0.12	0.22
tblVehicleEF	LDT1	0.08	0.22
tblVehicleEF	LDT1	2.9190e-003	3.6410e-003
tblVehicleEF	LDT1	5.8700e-004	7.7700e-004
tblVehicleEF	LDT1	0.26	0.50
tblVehicleEF	LDT1	0.25	0.48
tblVehicleEF	LDT1	0.16	0.30
tblVehicleEF	LDT1	0.02	0.06
tblVehicleEF	LDT1	0.12	0.22
tblVehicleEF	LDT1	0.09	0.24
tblVehicleEF	LDT1	5.4860e-003	0.01

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tblVehicleEF	LDT1	8.8250e-003	0.02
tblVehicleEF	LDT1	0.69	1.49
tblVehicleEF	LDT1	1.99	4.77
tblVehicleEF	LDT1	256.47	319.43
tblVehicleEF	LDT1	56.47	72.18
tblVehicleEF	LDT1	0.07	0.17
tblVehicleEF	LDT1	0.10	0.24
tblVehicleEF	LDT1	1.9820e-003	3.1150e-003
tblVehicleEF	LDT1	2.4970e-003	3.9000e-003
tblVehicleEF	LDT1	1.8230e-003	2.8690e-003
tblVehicleEF	LDT1	2.2960e-003	3.5870e-003
tblVehicleEF	LDT1	0.03	0.05
tblVehicleEF	LDT1	0.20	0.38
tblVehicleEF	LDT1	0.02	0.04
tblVehicleEF	LDT1	0.01	0.03
tblVehicleEF	LDT1	0.15	0.28
tblVehicleEF	LDT1	0.12	0.32
tblVehicleEF	LDT1	2.5710e-003	3.2130e-003
tblVehicleEF	LDT1	5.9900e-004	8.0600e-004
tblVehicleEF	LDT1	0.03	0.05
tblVehicleEF	LDT1	0.20	0.38
tblVehicleEF	LDT1	0.02	0.04
tblVehicleEF	LDT1	0.02	0.05
tblVehicleEF	LDT1	0.15	0.28
tblVehicleEF	LDT1	0.13	0.35
tblVehicleEF	LDT2	4.3040e-003	7.8170e-003
tblVehicleEF	LDT2	4.2470e-003	0.01

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tblVehicleEF	LDT2	0.62	0.94
tblVehicleEF	LDT2	1.05	2.07
tblVehicleEF	LDT2	300.32	373.86
tblVehicleEF	LDT2	62.74	81.53
tblVehicleEF	LDT2	0.05	0.10
tblVehicleEF	LDT2	0.06	0.17
tblVehicleEF	LDT2	1.7190e-003	2.0350e-003
tblVehicleEF	LDT2	2.1380e-003	2.5250e-003
tblVehicleEF	LDT2	1.5810e-003	1.8720e-003
tblVehicleEF	LDT2	1.9660e-003	2.3210e-003
tblVehicleEF	LDT2	0.05	0.09
tblVehicleEF	LDT2	0.10	0.17
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	0.06	0.09
tblVehicleEF	LDT2	0.06	0.14
tblVehicleEF	LDT2	3.0080e-003	3.7470e-003
tblVehicleEF	LDT2	6.4500e-004	8.5100e-004
tblVehicleEF	LDT2	0.05	0.09
tblVehicleEF	LDT2	0.10	0.17
tblVehicleEF	LDT2	0.04	0.06
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.06	0.09
tblVehicleEF	LDT2	0.06	0.15
tblVehicleEF	LDT2	4.9300e-003	8.9540e-003
tblVehicleEF	LDT2	3.5020e-003	8.5370e-003
tblVehicleEF	LDT2	0.77	1.16

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tblVehicleEF	LDT2	0.88	1.69
tblVehicleEF	LDT2	328.67	409.14
tblVehicleEF	LDT2	62.74	81.53
tblVehicleEF	LDT2	0.04	0.09
tblVehicleEF	LDT2	0.06	0.15
tblVehicleEF	LDT2	1.7190e-003	2.0350e-003
tblVehicleEF	LDT2	2.1380e-003	2.5250e-003
tblVehicleEF	LDT2	1.5810e-003	1.8720e-003
tblVehicleEF	LDT2	1.9660e-003	2.3210e-003
tblVehicleEF	LDT2	0.13	0.21
tblVehicleEF	LDT2	0.12	0.21
tblVehicleEF	LDT2	0.09	0.14
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	0.06	0.09
tblVehicleEF	LDT2	0.05	0.12
tblVehicleEF	LDT2	3.2930e-003	4.1030e-003
tblVehicleEF	LDT2	6.4200e-004	8.4400e-004
tblVehicleEF	LDT2	0.13	0.21
tblVehicleEF	LDT2	0.12	0.21
tblVehicleEF	LDT2	0.09	0.14
tblVehicleEF	LDT2	0.02	0.03
tblVehicleEF	LDT2	0.06	0.09
tblVehicleEF	LDT2	0.05	0.13
tblVehicleEF	LDT2	4.0380e-003	7.3650e-003
tblVehicleEF	LDT2	5.0070e-003	0.01
tblVehicleEF	LDT2	0.57	0.87
tblVehicleEF	LDT2	1.28	2.54

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tblVehicleEF	LDT2	289.51	360.41
tblVehicleEF	LDT2	62.74	81.53
tblVehicleEF	LDT2	0.05	0.11
tblVehicleEF	LDT2	0.07	0.19
tblVehicleEF	LDT2	1.7190e-003	2.0350e-003
tblVehicleEF	LDT2	2.1380e-003	2.5250e-003
tblVehicleEF	LDT2	1.5810e-003	1.8720e-003
tblVehicleEF	LDT2	1.9660e-003	2.3210e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.10	0.17
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.07	0.17
tblVehicleEF	LDT2	2.8990e-003	3.6120e-003
tblVehicleEF	LDT2	6.4900e-004	8.5900e-004
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.10	0.17
tblVehicleEF	LDT2	0.01	0.02
tblVehicleEF	LDT2	0.01	0.03
tblVehicleEF	LDT2	0.07	0.11
tblVehicleEF	LDT2	0.07	0.18
tblVehicleEF	LHD1	3.6560e-003	4.4800e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.13	0.13
tblVehicleEF	LHD1	0.90	1.52

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tblVehicleEF	LHD1	1.72	2.56
tblVehicleEF	LHD1	9.41	9.58
tblVehicleEF	LHD1	648.31	683.65
tblVehicleEF	LHD1	23.42	25.60
tblVehicleEF	LHD1	0.09	0.11
tblVehicleEF	LHD1	1.52	2.61
tblVehicleEF	LHD1	0.67	0.87
tblVehicleEF	LHD1	1.0550e-003	1.1860e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	6.8300e-004	9.4500e-004
tblVehicleEF	LHD1	1.0090e-003	1.1350e-003
tblVehicleEF	LHD1	2.6350e-003	2.6050e-003
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	6.2800e-004	8.6900e-004
tblVehicleEF	LHD1	2.9890e-003	3.7950e-003
tblVehicleEF	LHD1	0.10	0.11
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	1.3090e-003	1.5580e-003
tblVehicleEF	LHD1	0.13	0.18
tblVehicleEF	LHD1	0.35	0.36
tblVehicleEF	LHD1	0.16	0.25
tblVehicleEF	LHD1	9.3000e-005	9.5000e-005
tblVehicleEF	LHD1	6.3250e-003	6.6870e-003
tblVehicleEF	LHD1	2.6600e-004	3.0400e-004
tblVehicleEF	LHD1	2.9890e-003	3.7950e-003
tblVehicleEF	LHD1	0.10	0.11

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tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.3090e-003	1.5580e-003
tblVehicleEF	LHD1	0.16	0.22
tblVehicleEF	LHD1	0.35	0.36
tblVehicleEF	LHD1	0.18	0.28
tblVehicleEF	LHD1	3.6560e-003	4.4800e-003
tblVehicleEF	LHD1	0.01	0.03
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.13	0.13
tblVehicleEF	LHD1	0.91	1.55
tblVehicleEF	LHD1	1.59	2.35
tblVehicleEF	LHD1	9.41	9.58
tblVehicleEF	LHD1	648.31	683.65
tblVehicleEF	LHD1	23.42	25.60
tblVehicleEF	LHD1	0.09	0.11
tblVehicleEF	LHD1	1.44	2.48
tblVehicleEF	LHD1	0.63	0.82
tblVehicleEF	LHD1	1.0550e-003	1.1860e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	6.8300e-004	9.4500e-004
tblVehicleEF	LHD1	1.0090e-003	1.1350e-003
tblVehicleEF	LHD1	2.6350e-003	2.6050e-003
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	6.2800e-004	8.6900e-004
tblVehicleEF	LHD1	7.1390e-003	9.1900e-003
tblVehicleEF	LHD1	0.12	0.13

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tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	2.7350e-003	3.3720e-003
tblVehicleEF	LHD1	0.13	0.18
tblVehicleEF	LHD1	0.35	0.35
tblVehicleEF	LHD1	0.15	0.24
tblVehicleEF	LHD1	9.3000e-005	9.5000e-005
tblVehicleEF	LHD1	6.3250e-003	6.6870e-003
tblVehicleEF	LHD1	2.6400e-004	3.0000e-004
tblVehicleEF	LHD1	7.1390e-003	9.1900e-003
tblVehicleEF	LHD1	0.12	0.13
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	2.7350e-003	3.3720e-003
tblVehicleEF	LHD1	0.16	0.22
tblVehicleEF	LHD1	0.35	0.35
tblVehicleEF	LHD1	0.17	0.26
tblVehicleEF	LHD1	3.6560e-003	4.4800e-003
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	0.13	0.13
tblVehicleEF	LHD1	0.89	1.49
tblVehicleEF	LHD1	1.88	2.80
tblVehicleEF	LHD1	9.41	9.58
tblVehicleEF	LHD1	648.31	683.65
tblVehicleEF	LHD1	23.42	25.60
tblVehicleEF	LHD1	0.09	0.11
tblVehicleEF	LHD1	1.55	2.67
tblVehicleEF	LHD1	0.72	0.93

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tblVehicleEF	LHD1	1.0550e-003	1.1860e-003
tblVehicleEF	LHD1	0.01	0.01
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	6.8300e-004	9.4500e-004
tblVehicleEF	LHD1	1.0090e-003	1.1350e-003
tblVehicleEF	LHD1	2.6350e-003	2.6050e-003
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	6.2800e-004	8.6900e-004
tblVehicleEF	LHD1	8.8600e-004	1.0550e-003
tblVehicleEF	LHD1	0.10	0.12
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	5.0900e-004	5.7600e-004
tblVehicleEF	LHD1	0.13	0.18
tblVehicleEF	LHD1	0.38	0.39
tblVehicleEF	LHD1	0.17	0.27
tblVehicleEF	LHD1	9.3000e-005	9.5000e-005
tblVehicleEF	LHD1	6.3250e-003	6.6860e-003
tblVehicleEF	LHD1	2.6900e-004	3.0800e-004
tblVehicleEF	LHD1	8.8600e-004	1.0550e-003
tblVehicleEF	LHD1	0.10	0.12
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	5.0900e-004	5.7600e-004
tblVehicleEF	LHD1	0.16	0.22
tblVehicleEF	LHD1	0.38	0.39
tblVehicleEF	LHD1	0.19	0.29
tblVehicleEF	LHD2	2.5660e-003	3.2400e-003
tblVehicleEF	LHD2	5.9460e-003	0.01

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tblVehicleEF	LHD2	3.8360e-003	7.9850e-003
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	0.52	0.83
tblVehicleEF	LHD2	0.88	1.19
tblVehicleEF	LHD2	14.01	14.79
tblVehicleEF	LHD2	680.40	719.33
tblVehicleEF	LHD2	21.05	21.59
tblVehicleEF	LHD2	0.08	0.13
tblVehicleEF	LHD2	0.53	1.84
tblVehicleEF	LHD2	0.30	0.49
tblVehicleEF	LHD2	1.1330e-003	1.3900e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.4400e-004	3.8200e-004
tblVehicleEF	LHD2	1.0840e-003	1.3300e-003
tblVehicleEF	LHD2	2.7160e-003	2.7170e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.1600e-004	3.5100e-004
tblVehicleEF	LHD2	8.8300e-004	1.4190e-003
tblVehicleEF	LHD2	0.02	0.04
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	4.3800e-004	6.3000e-004
tblVehicleEF	LHD2	0.10	0.14
tblVehicleEF	LHD2	0.05	0.09
tblVehicleEF	LHD2	0.05	0.11
tblVehicleEF	LHD2	1.3600e-004	1.4400e-004
tblVehicleEF	LHD2	6.6080e-003	6.9860e-003

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tblVehicleEF	LHD2	2.2600e-004	2.3800e-004
tblVehicleEF	LHD2	8.8300e-004	1.4190e-003
tblVehicleEF	LHD2	0.02	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	4.3800e-004	6.3000e-004
tblVehicleEF	LHD2	0.12	0.16
tblVehicleEF	LHD2	0.05	0.09
tblVehicleEF	LHD2	0.06	0.12
tblVehicleEF	LHD2	2.5660e-003	3.2400e-003
tblVehicleEF	LHD2	5.9890e-003	0.01
tblVehicleEF	LHD2	3.6720e-003	7.5320e-003
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	0.52	0.83
tblVehicleEF	LHD2	0.81	1.10
tblVehicleEF	LHD2	14.01	14.79
tblVehicleEF	LHD2	680.40	719.33
tblVehicleEF	LHD2	21.05	21.59
tblVehicleEF	LHD2	0.08	0.13
tblVehicleEF	LHD2	0.51	1.75
tblVehicleEF	LHD2	0.29	0.46
tblVehicleEF	LHD2	1.1330e-003	1.3900e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.4400e-004	3.8200e-004
tblVehicleEF	LHD2	1.0840e-003	1.3300e-003
tblVehicleEF	LHD2	2.7160e-003	2.7170e-003
tblVehicleEF	LHD2	0.01	0.02

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tblVehicleEF	LHD2	3.1600e-004	3.5100e-004
tblVehicleEF	LHD2	2.0810e-003	3.4150e-003
tblVehicleEF	LHD2	0.03	0.05
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	8.9500e-004	1.3440e-003
tblVehicleEF	LHD2	0.10	0.14
tblVehicleEF	LHD2	0.05	0.09
tblVehicleEF	LHD2	0.05	0.10
tblVehicleEF	LHD2	1.3600e-004	1.4400e-004
tblVehicleEF	LHD2	6.6080e-003	6.9860e-003
tblVehicleEF	LHD2	2.2500e-004	2.3600e-004
tblVehicleEF	LHD2	2.0810e-003	3.4150e-003
tblVehicleEF	LHD2	0.03	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	8.9500e-004	1.3440e-003
tblVehicleEF	LHD2	0.12	0.16
tblVehicleEF	LHD2	0.05	0.09
tblVehicleEF	LHD2	0.05	0.11
tblVehicleEF	LHD2	2.5660e-003	3.2400e-003
tblVehicleEF	LHD2	5.9000e-003	0.01
tblVehicleEF	LHD2	4.0190e-003	8.4930e-003
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	0.52	0.82
tblVehicleEF	LHD2	0.95	1.30
tblVehicleEF	LHD2	14.01	14.79
tblVehicleEF	LHD2	680.40	719.33
tblVehicleEF	LHD2	21.05	21.59

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tblVehicleEF	LHD2	0.08	0.13
tblVehicleEF	LHD2	0.54	1.87
tblVehicleEF	LHD2	0.32	0.52
tblVehicleEF	LHD2	1.1330e-003	1.3900e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.4400e-004	3.8200e-004
tblVehicleEF	LHD2	1.0840e-003	1.3300e-003
tblVehicleEF	LHD2	2.7160e-003	2.7170e-003
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.1600e-004	3.5100e-004
tblVehicleEF	LHD2	2.7800e-004	4.1300e-004
tblVehicleEF	LHD2	0.02	0.04
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	1.7400e-004	2.3800e-004
tblVehicleEF	LHD2	0.10	0.14
tblVehicleEF	LHD2	0.06	0.10
tblVehicleEF	LHD2	0.05	0.11
tblVehicleEF	LHD2	1.3600e-004	1.4400e-004
tblVehicleEF	LHD2	6.6070e-003	6.9860e-003
tblVehicleEF	LHD2	2.2700e-004	2.4000e-004
tblVehicleEF	LHD2	2.7800e-004	4.1300e-004
tblVehicleEF	LHD2	0.02	0.04
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.7400e-004	2.3800e-004
tblVehicleEF	LHD2	0.12	0.16
tblVehicleEF	LHD2	0.06	0.10

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tblVehicleEF	LHD2	0.06	0.13
tblVehicleEF	MCY	0.54	0.47
tblVehicleEF	MCY	0.16	0.17
tblVehicleEF	MCY	19.35	21.44
tblVehicleEF	MCY	10.29	10.10
tblVehicleEF	MCY	187.66	174.96
tblVehicleEF	MCY	44.85	48.25
tblVehicleEF	MCY	1.16	1.18
tblVehicleEF	MCY	0.31	0.32
tblVehicleEF	MCY	2.5290e-003	2.1270e-003
tblVehicleEF	MCY	3.1530e-003	4.0990e-003
tblVehicleEF	MCY	2.3610e-003	1.9960e-003
tblVehicleEF	MCY	2.9560e-003	3.8780e-003
tblVehicleEF	MCY	1.51	1.59
tblVehicleEF	MCY	0.88	1.04
tblVehicleEF	MCY	0.76	0.85
tblVehicleEF	MCY	2.64	2.62
tblVehicleEF	MCY	0.34	0.51
tblVehicleEF	MCY	2.15	2.28
tblVehicleEF	MCY	2.2730e-003	2.1760e-003
tblVehicleEF	MCY	6.8000e-004	7.1500e-004
tblVehicleEF	MCY	1.51	1.59
tblVehicleEF	MCY	0.88	1.04
tblVehicleEF	MCY	0.76	0.85
tblVehicleEF	MCY	3.29	3.18
tblVehicleEF	MCY	0.34	0.51
tblVehicleEF	MCY	2.34	2.48

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tblVehicleEF	MCY	0.53	0.46
tblVehicleEF	MCY	0.13	0.14
tblVehicleEF	MCY	19.48	21.52
tblVehicleEF	MCY	9.10	9.13
tblVehicleEF	MCY	187.66	174.96
tblVehicleEF	MCY	44.85	48.25
tblVehicleEF	MCY	1.01	1.02
tblVehicleEF	MCY	0.29	0.29
tblVehicleEF	MCY	2.5290e-003	2.1270e-003
tblVehicleEF	MCY	3.1530e-003	4.0990e-003
tblVehicleEF	MCY	2.3610e-003	1.9960e-003
tblVehicleEF	MCY	2.9560e-003	3.8780e-003
tblVehicleEF	MCY	3.87	4.09
tblVehicleEF	MCY	1.41	1.56
tblVehicleEF	MCY	2.00	2.20
tblVehicleEF	MCY	2.59	2.54
tblVehicleEF	MCY	0.33	0.50
tblVehicleEF	MCY	1.82	1.91
tblVehicleEF	MCY	2.2730e-003	2.1750e-003
tblVehicleEF	MCY	6.5000e-004	6.8800e-004
tblVehicleEF	MCY	3.87	4.09
tblVehicleEF	MCY	1.41	1.56
tblVehicleEF	MCY	2.00	2.20
tblVehicleEF	MCY	3.22	3.08
tblVehicleEF	MCY	0.33	0.50
tblVehicleEF	MCY	1.98	2.08
tblVehicleEF	MCY	0.56	0.49

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tblVehicleEF	MCY	0.19	0.20
tblVehicleEF	MCY	20.74	23.23
tblVehicleEF	MCY	12.11	11.77
tblVehicleEF	MCY	187.66	174.96
tblVehicleEF	MCY	44.85	48.25
tblVehicleEF	MCY	1.27	1.28
tblVehicleEF	MCY	0.34	0.35
tblVehicleEF	MCY	2.5290e-003	2.1270e-003
tblVehicleEF	MCY	3.1530e-003	4.0990e-003
tblVehicleEF	MCY	2.3610e-003	1.9960e-003
tblVehicleEF	MCY	2.9560e-003	3.8780e-003
tblVehicleEF	MCY	0.33	0.34
tblVehicleEF	MCY	0.87	1.07
tblVehicleEF	MCY	0.18	0.19
tblVehicleEF	MCY	2.75	2.77
tblVehicleEF	MCY	0.40	0.59
tblVehicleEF	MCY	2.58	2.77
tblVehicleEF	MCY	2.2990e-003	2.2100e-003
tblVehicleEF	MCY	7.2300e-004	7.5700e-004
tblVehicleEF	MCY	0.33	0.34
tblVehicleEF	MCY	0.87	1.07
tblVehicleEF	MCY	0.18	0.19
tblVehicleEF	MCY	3.42	3.36
tblVehicleEF	MCY	0.40	0.59
tblVehicleEF	MCY	2.81	3.02
tblVehicleEF	MDV	6.7280e-003	0.01
tblVehicleEF	MDV	0.01	0.02

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tblVehicleEF	MDV	0.81	1.44
tblVehicleEF	MDV	1.94	3.82
tblVehicleEF	MDV	409.81	516.32
tblVehicleEF	MDV	87.69	111.66
tblVehicleEF	MDV	0.08	0.17
tblVehicleEF	MDV	0.15	0.34
tblVehicleEF	MDV	1.7090e-003	1.9750e-003
tblVehicleEF	MDV	2.1670e-003	2.5760e-003
tblVehicleEF	MDV	1.5740e-003	1.8210e-003
tblVehicleEF	MDV	1.9930e-003	2.3690e-003
tblVehicleEF	MDV	0.10	0.12
tblVehicleEF	MDV	0.18	0.24
tblVehicleEF	MDV	0.08	0.09
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.11	0.14
tblVehicleEF	MDV	0.14	0.30
tblVehicleEF	MDV	4.1000e-003	5.1740e-003
tblVehicleEF	MDV	9.1000e-004	1.1840e-003
tblVehicleEF	MDV	0.10	0.12
tblVehicleEF	MDV	0.18	0.24
tblVehicleEF	MDV	0.08	0.09
tblVehicleEF	MDV	0.02	0.05
tblVehicleEF	MDV	0.11	0.14
tblVehicleEF	MDV	0.15	0.33
tblVehicleEF	MDV	7.7030e-003	0.02
tblVehicleEF	MDV	8.2710e-003	0.02
tblVehicleEF	MDV	1.00	1.77

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tblVehicleEF	MDV	1.60	3.13
tblVehicleEF	MDV	447.50	563.80
tblVehicleEF	MDV	87.69	111.66
tblVehicleEF	MDV	0.07	0.16
tblVehicleEF	MDV	0.14	0.32
tblVehicleEF	MDV	1.7090e-003	1.9750e-003
tblVehicleEF	MDV	2.1670e-003	2.5760e-003
tblVehicleEF	MDV	1.5740e-003	1.8210e-003
tblVehicleEF	MDV	1.9930e-003	2.3690e-003
tblVehicleEF	MDV	0.24	0.28
tblVehicleEF	MDV	0.22	0.28
tblVehicleEF	MDV	0.17	0.20
tblVehicleEF	MDV	0.02	0.04
tblVehicleEF	MDV	0.10	0.13
tblVehicleEF	MDV	0.11	0.24
tblVehicleEF	MDV	4.4790e-003	5.6540e-003
tblVehicleEF	MDV	9.0400e-004	1.1720e-003
tblVehicleEF	MDV	0.24	0.28
tblVehicleEF	MDV	0.22	0.28
tblVehicleEF	MDV	0.17	0.20
tblVehicleEF	MDV	0.03	0.06
tblVehicleEF	MDV	0.10	0.13
tblVehicleEF	MDV	0.12	0.27
tblVehicleEF	MDV	6.3140e-003	0.01
tblVehicleEF	MDV	0.01	0.03
tblVehicleEF	MDV	0.75	1.34
tblVehicleEF	MDV	2.37	4.70

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tblVehicleEF	MDV	395.45	498.22
tblVehicleEF	MDV	87.69	111.66
tblVehicleEF	MDV	0.08	0.19
tblVehicleEF	MDV	0.17	0.38
tblVehicleEF	MDV	1.7090e-003	1.9750e-003
tblVehicleEF	MDV	2.1670e-003	2.5760e-003
tblVehicleEF	MDV	1.5740e-003	1.8210e-003
tblVehicleEF	MDV	1.9930e-003	2.3690e-003
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.18	0.24
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.02	0.03
tblVehicleEF	MDV	0.13	0.16
tblVehicleEF	MDV	0.16	0.36
tblVehicleEF	MDV	3.9560e-003	4.9920e-003
tblVehicleEF	MDV	9.1800e-004	1.2000e-003
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.18	0.24
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.02	0.05
tblVehicleEF	MDV	0.13	0.16
tblVehicleEF	MDV	0.18	0.39
tblVehicleEF	MH	0.01	0.05
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.77	3.32
tblVehicleEF	MH	4.22	6.69
tblVehicleEF	MH	1,200.61	1,233.89

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tblVehicleEF	MH	56.60	58.02
tblVehicleEF	MH	1.26	2.09
tblVehicleEF	MH	0.74	0.95
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.04
tblVehicleEF	MH	8.7600e-004	1.2470e-003
tblVehicleEF	MH	3.2330e-003	3.2420e-003
tblVehicleEF	MH	0.02	0.04
tblVehicleEF	MH	8.0600e-004	1.1470e-003
tblVehicleEF	MH	1.01	1.61
tblVehicleEF	MH	0.06	0.10
tblVehicleEF	MH	0.29	0.43
tblVehicleEF	MH	0.06	0.15
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.26	0.39
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.4000e-004	6.9700e-004
tblVehicleEF	MH	1.01	1.61
tblVehicleEF	MH	0.06	0.10
tblVehicleEF	MH	0.29	0.43
tblVehicleEF	MH	0.08	0.21
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.28	0.42
tblVehicleEF	MH	0.01	0.05
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.79	3.46
tblVehicleEF	MH	3.81	5.98

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tblVehicleEF	MH	1,200.61	1,233.89
tblVehicleEF	MH	56.60	58.02
tblVehicleEF	MH	1.18	1.95
tblVehicleEF	MH	0.70	0.89
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.04
tblVehicleEF	MH	8.7600e-004	1.2470e-003
tblVehicleEF	MH	3.2330e-003	3.2420e-003
tblVehicleEF	MH	0.02	0.04
tblVehicleEF	MH	8.0600e-004	1.1470e-003
tblVehicleEF	MH	2.42	3.93
tblVehicleEF	MH	0.07	0.12
tblVehicleEF	MH	0.60	0.93
tblVehicleEF	MH	0.06	0.16
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.24	0.36
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.3300e-004	6.8500e-004
tblVehicleEF	MH	2.42	3.93
tblVehicleEF	MH	0.07	0.12
tblVehicleEF	MH	0.60	0.93
tblVehicleEF	MH	0.08	0.21
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.26	0.39
tblVehicleEF	MH	0.01	0.04
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.75	3.18

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tblVehicleEF	MH	4.70	7.55
tblVehicleEF	MH	1,200.61	1,233.89
tblVehicleEF	MH	56.60	58.02
tblVehicleEF	MH	1.30	2.16
tblVehicleEF	MH	0.80	1.02
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.04
tblVehicleEF	MH	8.7600e-004	1.2470e-003
tblVehicleEF	MH	3.2330e-003	3.2420e-003
tblVehicleEF	MH	0.02	0.04
tblVehicleEF	MH	8.0600e-004	1.1470e-003
tblVehicleEF	MH	0.29	0.43
tblVehicleEF	MH	0.07	0.11
tblVehicleEF	MH	0.14	0.19
tblVehicleEF	MH	0.06	0.14
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.27	0.42
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.4800e-004	7.1100e-004
tblVehicleEF	MH	0.29	0.43
tblVehicleEF	MH	0.07	0.11
tblVehicleEF	MH	0.14	0.19
tblVehicleEF	MH	0.07	0.20
tblVehicleEF	MH	0.02	0.03
tblVehicleEF	MH	0.30	0.46
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	3.2520e-003	9.7490e-003

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tblVehicleEF	MHD	0.03	0.06
tblVehicleEF	MHD	0.29	0.44
tblVehicleEF	MHD	0.28	0.65
tblVehicleEF	MHD	3.08	6.36
tblVehicleEF	MHD	163.75	162.15
tblVehicleEF	MHD	1,179.07	1,212.48
tblVehicleEF	MHD	45.31	50.10
tblVehicleEF	MHD	0.43	0.79
tblVehicleEF	MHD	1.09	1.78
tblVehicleEF	MHD	12.66	12.44
tblVehicleEF	MHD	6.4000e-005	7.5720e-003
tblVehicleEF	MHD	3.0370e-003	0.02
tblVehicleEF	MHD	6.2200e-004	9.0400e-004
tblVehicleEF	MHD	6.2000e-005	7.2440e-003
tblVehicleEF	MHD	2.8980e-003	0.02
tblVehicleEF	MHD	5.7200e-004	8.3100e-004
tblVehicleEF	MHD	7.8600e-004	1.6520e-003
tblVehicleEF	MHD	0.03	0.05
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	3.8700e-004	6.9300e-004
tblVehicleEF	MHD	0.04	0.09
tblVehicleEF	MHD	0.01	0.02
tblVehicleEF	MHD	0.19	0.38
tblVehicleEF	MHD	1.5720e-003	1.5570e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	5.0700e-004	6.1200e-004
tblVehicleEF	MHD	7.8600e-004	1.6520e-003

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tblVehicleEF	MHD	0.03	0.05
tblVehicleEF	MHD	0.03	0.06
tblVehicleEF	MHD	3.8700e-004	6.9300e-004
tblVehicleEF	MHD	0.05	0.10
tblVehicleEF	MHD	0.01	0.02
tblVehicleEF	MHD	0.21	0.41
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	3.2970e-003	9.9950e-003
tblVehicleEF	MHD	0.03	0.06
tblVehicleEF	MHD	0.20	0.31
tblVehicleEF	MHD	0.28	0.66
tblVehicleEF	MHD	2.84	5.86
tblVehicleEF	MHD	173.58	171.90
tblVehicleEF	MHD	1,179.07	1,212.48
tblVehicleEF	MHD	45.31	50.10
tblVehicleEF	MHD	0.45	0.82
tblVehicleEF	MHD	1.04	1.69
tblVehicleEF	MHD	12.63	12.38
tblVehicleEF	MHD	5.4000e-005	6.3830e-003
tblVehicleEF	MHD	3.0370e-003	0.02
tblVehicleEF	MHD	6.2200e-004	9.0400e-004
tblVehicleEF	MHD	5.2000e-005	6.1070e-003
tblVehicleEF	MHD	2.8980e-003	0.02
tblVehicleEF	MHD	5.7200e-004	8.3100e-004
tblVehicleEF	MHD	1.8670e-003	4.0640e-003
tblVehicleEF	MHD	0.03	0.06
tblVehicleEF	MHD	0.02	0.04

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tblVehicleEF	MHD	8.0600e-004	1.5590e-003
tblVehicleEF	MHD	0.04	0.09
tblVehicleEF	MHD	0.01	0.02
tblVehicleEF	MHD	0.18	0.35
tblVehicleEF	MHD	1.6640e-003	1.6490e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	5.0300e-004	6.0400e-004
tblVehicleEF	MHD	1.8670e-003	4.0640e-003
tblVehicleEF	MHD	0.03	0.06
tblVehicleEF	MHD	0.03	0.05
tblVehicleEF	MHD	8.0600e-004	1.5590e-003
tblVehicleEF	MHD	0.05	0.10
tblVehicleEF	MHD	0.01	0.02
tblVehicleEF	MHD	0.20	0.39
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	3.2040e-003	9.4880e-003
tblVehicleEF	MHD	0.04	0.07
tblVehicleEF	MHD	0.38	0.58
tblVehicleEF	MHD	0.28	0.63
tblVehicleEF	MHD	3.37	6.98
tblVehicleEF	MHD	150.45	149.00
tblVehicleEF	MHD	1,179.07	1,212.48
tblVehicleEF	MHD	45.31	50.10
tblVehicleEF	MHD	0.41	0.76
tblVehicleEF	MHD	1.12	1.81
tblVehicleEF	MHD	12.69	12.50
tblVehicleEF	MHD	7.8000e-005	9.2130e-003

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tblVehicleEF	MHD	3.0370e-003	0.02
tblVehicleEF	MHD	6.2200e-004	9.0400e-004
tblVehicleEF	MHD	7.5000e-005	8.8150e-003
tblVehicleEF	MHD	2.8980e-003	0.02
tblVehicleEF	MHD	5.7200e-004	8.3100e-004
tblVehicleEF	MHD	2.4200e-004	4.3700e-004
tblVehicleEF	MHD	0.03	0.05
tblVehicleEF	MHD	0.02	0.05
tblVehicleEF	MHD	1.5000e-004	2.4000e-004
tblVehicleEF	MHD	0.04	0.09
tblVehicleEF	MHD	0.01	0.02
tblVehicleEF	MHD	0.20	0.40
tblVehicleEF	MHD	1.4460e-003	1.4330e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	5.1200e-004	6.2300e-004
tblVehicleEF	MHD	2.4200e-004	4.3700e-004
tblVehicleEF	MHD	0.03	0.05
tblVehicleEF	MHD	0.03	0.06
tblVehicleEF	MHD	1.5000e-004	2.4000e-004
tblVehicleEF	MHD	0.05	0.10
tblVehicleEF	MHD	0.01	0.02
tblVehicleEF	MHD	0.22	0.44
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.5580e-003	0.02
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.25	0.30
tblVehicleEF	OBUS	0.47	1.18

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tblVehicleEF	OBUS	5.00	7.88
tblVehicleEF	OBUS	194.80	166.79
tblVehicleEF	OBUS	1,295.79	1,334.51
tblVehicleEF	OBUS	61.05	65.29
tblVehicleEF	OBUS	0.46	0.81
tblVehicleEF	OBUS	0.97	1.93
tblVehicleEF	OBUS	4.20	3.97
tblVehicleEF	OBUS	4.3000e-005	1.8300e-004
tblVehicleEF	OBUS	2.9930e-003	7.8950e-003
tblVehicleEF	OBUS	9.6700e-004	1.0160e-003
tblVehicleEF	OBUS	4.1000e-005	1.7500e-004
tblVehicleEF	OBUS	2.8410e-003	7.5300e-003
tblVehicleEF	OBUS	8.9000e-004	9.3400e-004
tblVehicleEF	OBUS	2.4900e-003	3.3840e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	8.1900e-004	1.0350e-003
tblVehicleEF	OBUS	0.05	0.10
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	0.31	0.47
tblVehicleEF	OBUS	1.8690e-003	1.6030e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.9800e-004	7.9100e-004
tblVehicleEF	OBUS	2.4900e-003	3.3840e-003
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	8.1900e-004	1.0350e-003

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tblVehicleEF	OBUS	0.06	0.13
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	0.34	0.52
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.7100e-003	0.02
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.24	0.27
tblVehicleEF	OBUS	0.48	1.21
tblVehicleEF	OBUS	4.52	7.10
tblVehicleEF	OBUS	205.48	175.75
tblVehicleEF	OBUS	1,295.79	1,334.51
tblVehicleEF	OBUS	61.05	65.29
tblVehicleEF	OBUS	0.48	0.84
tblVehicleEF	OBUS	0.91	1.82
tblVehicleEF	OBUS	4.15	3.89
tblVehicleEF	OBUS	3.6000e-005	1.5400e-004
tblVehicleEF	OBUS	2.9930e-003	7.8950e-003
tblVehicleEF	OBUS	9.6700e-004	1.0160e-003
tblVehicleEF	OBUS	3.4000e-005	1.4700e-004
tblVehicleEF	OBUS	2.8410e-003	7.5300e-003
tblVehicleEF	OBUS	8.9000e-004	9.3400e-004
tblVehicleEF	OBUS	5.9780e-003	8.2620e-003
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	1.6790e-003	2.2150e-003
tblVehicleEF	OBUS	0.05	0.10
tblVehicleEF	OBUS	0.04	0.05

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tblVehicleEF	OBUS	0.29	0.44
tblVehicleEF	OBUS	1.9710e-003	1.6880e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.9000e-004	7.7800e-004
tblVehicleEF	OBUS	5.9780e-003	8.2620e-003
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	1.6790e-003	2.2150e-003
tblVehicleEF	OBUS	0.06	0.13
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	0.32	0.48
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	6.3910e-003	0.02
tblVehicleEF	OBUS	0.03	0.04
tblVehicleEF	OBUS	0.27	0.33
tblVehicleEF	OBUS	0.46	1.14
tblVehicleEF	OBUS	5.57	8.81
tblVehicleEF	OBUS	180.04	154.42
tblVehicleEF	OBUS	1,295.79	1,334.51
tblVehicleEF	OBUS	61.05	65.29
tblVehicleEF	OBUS	0.44	0.77
tblVehicleEF	OBUS	0.99	1.98
tblVehicleEF	OBUS	4.27	4.07
tblVehicleEF	OBUS	5.2000e-005	2.2200e-004
tblVehicleEF	OBUS	2.9930e-003	7.8950e-003
tblVehicleEF	OBUS	9.6700e-004	1.0160e-003
tblVehicleEF	OBUS	4.9000e-005	2.1300e-004

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tblVehicleEF	OBUS	2.8410e-003	7.5300e-003
tblVehicleEF	OBUS	8.9000e-004	9.3400e-004
tblVehicleEF	OBUS	7.6000e-004	9.5200e-004
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.04	0.05
tblVehicleEF	OBUS	3.7800e-004	4.5200e-004
tblVehicleEF	OBUS	0.05	0.10
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	0.33	0.51
tblVehicleEF	OBUS	1.7280e-003	1.4850e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.0800e-004	8.0700e-004
tblVehicleEF	OBUS	7.6000e-004	9.5200e-004
tblVehicleEF	OBUS	0.02	0.03
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	3.7800e-004	4.5200e-004
tblVehicleEF	OBUS	0.06	0.12
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	0.36	0.56
tblVehicleEF	SBUS	0.82	0.84
tblVehicleEF	SBUS	6.2470e-003	0.02
tblVehicleEF	SBUS	0.06	0.09
tblVehicleEF	SBUS	4.07	3.74
tblVehicleEF	SBUS	0.43	0.97
tblVehicleEF	SBUS	3.25	4.58
tblVehicleEF	SBUS	1,280.46	1,366.84
tblVehicleEF	SBUS	1,115.56	1,159.43

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tblVehicleEF	SBUS	26.48	22.68
tblVehicleEF	SBUS	7.04	13.64
tblVehicleEF	SBUS	2.23	5.08
tblVehicleEF	SBUS	16.55	17.40
tblVehicleEF	SBUS	3.6610e-003	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	4.5300e-004	3.6700e-004
tblVehicleEF	SBUS	3.5030e-003	0.01
tblVehicleEF	SBUS	2.7580e-003	2.7910e-003
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	4.1700e-004	3.3700e-004
tblVehicleEF	SBUS	2.3210e-003	2.9420e-003
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.48	0.44
tblVehicleEF	SBUS	8.5700e-004	8.9700e-004
tblVehicleEF	SBUS	0.08	0.13
tblVehicleEF	SBUS	6.3530e-003	9.0840e-003
tblVehicleEF	SBUS	0.17	0.22
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	3.2100e-004	3.0600e-004
tblVehicleEF	SBUS	2.3210e-003	2.9420e-003
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.69	0.62
tblVehicleEF	SBUS	8.5700e-004	8.9700e-004
tblVehicleEF	SBUS	0.09	0.16

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tblVehicleEF	SBUS	6.3530e-003	9.0840e-003
tblVehicleEF	SBUS	0.19	0.24
tblVehicleEF	SBUS	0.82	0.84
tblVehicleEF	SBUS	6.3520e-003	0.02
tblVehicleEF	SBUS	0.05	0.07
tblVehicleEF	SBUS	3.97	3.57
tblVehicleEF	SBUS	0.43	1.00
tblVehicleEF	SBUS	2.19	3.08
tblVehicleEF	SBUS	1,348.77	1,441.40
tblVehicleEF	SBUS	1,115.56	1,159.43
tblVehicleEF	SBUS	26.48	22.68
tblVehicleEF	SBUS	7.27	14.08
tblVehicleEF	SBUS	2.12	4.83
tblVehicleEF	SBUS	16.53	17.37
tblVehicleEF	SBUS	3.0860e-003	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	4.5300e-004	3.6700e-004
tblVehicleEF	SBUS	2.9530e-003	0.01
tblVehicleEF	SBUS	2.7580e-003	2.7910e-003
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	4.1700e-004	3.3700e-004
tblVehicleEF	SBUS	5.4300e-003	7.1450e-003
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.48	0.44
tblVehicleEF	SBUS	1.6650e-003	1.8970e-003
tblVehicleEF	SBUS	0.08	0.13

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tblVehicleEF	SBUS	5.5320e-003	7.8320e-003
tblVehicleEF	SBUS	0.14	0.18
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	3.0300e-004	2.8100e-004
tblVehicleEF	SBUS	5.4300e-003	7.1450e-003
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.69	0.62
tblVehicleEF	SBUS	1.6650e-003	1.8970e-003
tblVehicleEF	SBUS	0.09	0.16
tblVehicleEF	SBUS	5.5320e-003	7.8320e-003
tblVehicleEF	SBUS	0.15	0.19
tblVehicleEF	SBUS	0.82	0.84
tblVehicleEF	SBUS	6.1430e-003	0.02
tblVehicleEF	SBUS	0.07	0.11
tblVehicleEF	SBUS	4.21	3.98
tblVehicleEF	SBUS	0.42	0.95
tblVehicleEF	SBUS	4.40	6.20
tblVehicleEF	SBUS	1,186.11	1,263.87
tblVehicleEF	SBUS	1,115.56	1,159.43
tblVehicleEF	SBUS	26.48	22.68
tblVehicleEF	SBUS	6.73	13.03
tblVehicleEF	SBUS	2.27	5.19
tblVehicleEF	SBUS	16.57	17.43
tblVehicleEF	SBUS	4.4550e-003	0.02
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.01	0.03

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tblVehicleEF	SBUS	4.5300e-004	3.6700e-004
tblVehicleEF	SBUS	4.2620e-003	0.02
tblVehicleEF	SBUS	2.7580e-003	2.7910e-003
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	4.1700e-004	3.3700e-004
tblVehicleEF	SBUS	7.9200e-004	8.6500e-004
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.49	0.45
tblVehicleEF	SBUS	4.1800e-004	4.0300e-004
tblVehicleEF	SBUS	0.08	0.13
tblVehicleEF	SBUS	8.0250e-003	0.01
tblVehicleEF	SBUS	0.20	0.26
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	3.4000e-004	3.3200e-004
tblVehicleEF	SBUS	7.9200e-004	8.6500e-004
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.69	0.63
tblVehicleEF	SBUS	4.1800e-004	4.0300e-004
tblVehicleEF	SBUS	0.09	0.15
tblVehicleEF	SBUS	8.0250e-003	0.01
tblVehicleEF	SBUS	0.22	0.29
tblVehicleEF	UBUS	0.95	1.42
tblVehicleEF	UBUS	0.07	0.09
tblVehicleEF	UBUS	5.65	8.19
tblVehicleEF	UBUS	12.64	16.21
tblVehicleEF	UBUS	1,793.70	1,883.52

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tblVehicleEF	UBUS	150.00	147.57
tblVehicleEF	UBUS	2.67	5.78
tblVehicleEF	UBUS	12.23	12.99
tblVehicleEF	UBUS	0.47	0.48
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	1.5470e-003	1.3150e-003
tblVehicleEF	UBUS	0.20	0.20
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	1.4230e-003	1.2090e-003
tblVehicleEF	UBUS	7.5120e-003	8.6040e-003
tblVehicleEF	UBUS	0.09	0.11
tblVehicleEF	UBUS	3.1820e-003	3.3050e-003
tblVehicleEF	UBUS	0.24	0.56
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	1.00	1.16
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	1.7290e-003	1.7660e-003
tblVehicleEF	UBUS	7.5120e-003	8.6040e-003
tblVehicleEF	UBUS	0.09	0.11
tblVehicleEF	UBUS	3.1820e-003	3.3050e-003
tblVehicleEF	UBUS	1.22	2.03
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	1.10	1.27
tblVehicleEF	UBUS	0.95	1.42
tblVehicleEF	UBUS	0.07	0.08
tblVehicleEF	UBUS	5.71	8.30
tblVehicleEF	UBUS	10.14	12.95

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tblVehicleEF	UBUS	1,793.70	1,883.52
tblVehicleEF	UBUS	150.00	147.57
tblVehicleEF	UBUS	2.50	5.45
tblVehicleEF	UBUS	12.11	12.85
tblVehicleEF	UBUS	0.47	0.48
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	1.5470e-003	1.3150e-003
tblVehicleEF	UBUS	0.20	0.20
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	1.4230e-003	1.2090e-003
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	0.11	0.14
tblVehicleEF	UBUS	6.7320e-003	7.4060e-003
tblVehicleEF	UBUS	0.25	0.56
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	0.88	1.02
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	1.6860e-003	1.7100e-003
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	0.11	0.14
tblVehicleEF	UBUS	6.7320e-003	7.4060e-003
tblVehicleEF	UBUS	1.22	2.04
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	0.97	1.12
tblVehicleEF	UBUS	0.94	1.42
tblVehicleEF	UBUS	0.08	0.10
tblVehicleEF	UBUS	5.60	8.09

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tblVehicleEF	UBUS	15.52	20.01
tblVehicleEF	UBUS	1,793.70	1,883.52
tblVehicleEF	UBUS	150.00	147.57
tblVehicleEF	UBUS	2.75	5.94
tblVehicleEF	UBUS	12.36	13.15
tblVehicleEF	UBUS	0.47	0.48
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	1.5470e-003	1.3150e-003
tblVehicleEF	UBUS	0.20	0.20
tblVehicleEF	UBUS	0.03	0.07
tblVehicleEF	UBUS	1.4230e-003	1.2090e-003
tblVehicleEF	UBUS	2.3560e-003	2.5040e-003
tblVehicleEF	UBUS	0.09	0.11
tblVehicleEF	UBUS	1.4640e-003	1.4040e-003
tblVehicleEF	UBUS	0.24	0.55
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	1.13	1.32
tblVehicleEF	UBUS	0.01	0.01
tblVehicleEF	UBUS	1.7780e-003	1.8310e-003
tblVehicleEF	UBUS	2.3560e-003	2.5040e-003
tblVehicleEF	UBUS	0.09	0.11
tblVehicleEF	UBUS	1.4640e-003	1.4040e-003
tblVehicleEF	UBUS	1.21	2.02
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	1.24	1.45
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.50

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tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	11.37	0.00
tblWoodstoves	NumberNoncatalytic	11.37	0.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2021	3-31-2021	1.1088	1.1088
2	4-1-2021	6-30-2021	0.6589	0.6589
3	7-1-2021	9-30-2021	0.6662	0.6662
4	10-1-2021	12-31-2021	0.6665	0.6665
5	1-1-2022	3-31-2022	0.5855	0.5855
6	4-1-2022	6-30-2022	0.5400	0.5400
		Highest	1.1088	1.1088

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	0.4951	0.0289	0.4766	1.8000e-004		4.5000e-003	4.5000e-003		4.5000e-003	4.5000e-003	0.0000	28.0562	28.0562	1.2500e-003	5.0000e-004	28.2366
Energy	8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	160.4996	160.4996	8.9400e-003	3.1100e-003	161.6511
Mobile	0.2034	0.6206	2.4430	6.8800e-003	0.6278	6.3900e-003	0.6342	0.1681	5.9500e-003	0.1740	0.0000	630.2305	630.2305	0.0355	0.0000	631.1175
Waste						0.0000	0.0000		0.0000	0.0000	35.2250	0.0000	35.2250	2.0817	0.0000	87.2685
Water						0.0000	0.0000		0.0000	0.0000	1.3022	4.1130	5.4152	0.1342	3.2400e-003	9.7358
Total	0.7073	0.7254	2.9519	7.5400e-003	0.6278	0.0170	0.6448	0.1681	0.0166	0.1847	36.5273	822.8993	859.4266	2.2616	6.8500e-003	918.0095

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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	0.4951	0.0289	0.4766	1.8000e-004		4.5000e-003	4.5000e-003		4.5000e-003	4.5000e-003	0.0000	28.0562	28.0562	1.2500e-003	5.0000e-004	28.2366
Energy	8.3500e-003	0.0713	0.0304	4.6000e-004		5.7700e-003	5.7700e-003		5.7700e-003	5.7700e-003	0.0000	113.6558	113.6558	4.6900e-003	2.1600e-003	114.4157
Mobile	0.1994	0.5954	2.3121	6.4400e-003	0.5845	6.0000e-003	0.5905	0.1565	5.5800e-003	0.1621	0.0000	589.2964	589.2964	0.0337	0.0000	590.1390
Waste						0.0000	0.0000		0.0000	0.0000	35.2250	0.0000	35.2250	2.0817	0.0000	87.2685
Water						0.0000	0.0000		0.0000	0.0000	1.3022	4.1130	5.4152	0.1342	3.2400e-003	9.7358
Total	0.7028	0.6957	2.8190	7.0800e-003	0.5845	0.0163	0.6007	0.1565	0.0159	0.1723	36.5273	735.1214	771.6487	2.2555	5.9000e-003	829.7956

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.64	4.10	4.50	6.10	6.90	4.46	6.83	6.90	4.46	6.68	0.00	10.67	10.21	0.27	13.87	9.61

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	1/1/2021	2/11/2021	5	30	
2	Building Construction	Building Construction	2/12/2021	4/7/2022	5	300	
3	Paving	Paving	4/8/2022	5/5/2022	5	20	
4	Architectural Coating	Architectural Coating	5/6/2022	6/2/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 229,635; Residential Outdoor: 76,545; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

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
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	23.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

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3.2 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7425	81.7425	0.0264	0.0000	82.4034
Total	0.0629	0.6960	0.4632	9.3000e-004	0.1301	0.0298	0.1599	0.0540	0.0274	0.0814	0.0000	81.7425	81.7425	0.0264	0.0000	82.4034

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	1.2500e-003	8.0000e-004	8.8900e-003	2.0000e-005	2.3900e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1330	2.1330	6.0000e-005	0.0000	2.1346
Total	1.2500e-003	8.0000e-004	8.8900e-003	2.0000e-005	2.3900e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1330	2.1330	6.0000e-005	0.0000	2.1346

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3.2 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0507	0.0000	0.0507	0.0210	0.0000	0.0210	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7424	81.7424	0.0264	0.0000	82.4033
Total	0.0629	0.6960	0.4632	9.3000e-004	0.0507	0.0298	0.0805	0.0210	0.0274	0.0484	0.0000	81.7424	81.7424	0.0264	0.0000	82.4033

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	1.2500e-003	8.0000e-004	8.8900e-003	2.0000e-005	2.3900e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1330	2.1330	6.0000e-005	0.0000	2.1346
Total	1.2500e-003	8.0000e-004	8.8900e-003	2.0000e-005	2.3900e-003	2.0000e-005	2.4100e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.1330	2.1330	6.0000e-005	0.0000	2.1346

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3.3 Building Construction - 2021

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	0.2196	2.0134	1.9144	3.1100e-003		0.1107	0.1107		0.1041	0.1041	0.0000	267.5411	267.5411	0.0646	0.0000	269.1547
Total	0.2196	2.0134	1.9144	3.1100e-003		0.1107	0.1107		0.1041	0.1041	0.0000	267.5411	267.5411	0.0646	0.0000	269.1547

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	2.9300e-003	0.0878	0.0208	2.3000e-004	5.3500e-003	2.7000e-004	5.6100e-003	1.5500e-003	2.6000e-004	1.8000e-003	0.0000	21.7219	21.7219	1.7400e-003	0.0000	21.7654
Worker	0.0111	7.0600e-003	0.0787	2.1000e-004	0.0212	1.7000e-004	0.0213	5.6300e-003	1.5000e-004	5.7800e-003	0.0000	18.8878	18.8878	5.6000e-004	0.0000	18.9017
Total	0.0140	0.0948	0.0995	4.4000e-004	0.0265	4.4000e-004	0.0269	7.1800e-003	4.1000e-004	7.5800e-003	0.0000	40.6097	40.6097	2.3000e-003	0.0000	40.6671

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3.3 Building Construction - 2021

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	0.2196	2.0134	1.9144	3.1100e-003		0.1107	0.1107		0.1041	0.1041	0.0000	267.5407	267.5407	0.0646	0.0000	269.1544
Total	0.2196	2.0134	1.9144	3.1100e-003		0.1107	0.1107		0.1041	0.1041	0.0000	267.5407	267.5407	0.0646	0.0000	269.1544

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	2.9300e-003	0.0878	0.0208	2.3000e-004	5.3500e-003	2.7000e-004	5.6100e-003	1.5500e-003	2.6000e-004	1.8000e-003	0.0000	21.7219	21.7219	1.7400e-003	0.0000	21.7654
Worker	0.0111	7.0600e-003	0.0787	2.1000e-004	0.0212	1.7000e-004	0.0213	5.6300e-003	1.5000e-004	5.7800e-003	0.0000	18.8878	18.8878	5.6000e-004	0.0000	18.9017
Total	0.0140	0.0948	0.0995	4.4000e-004	0.0265	4.4000e-004	0.0269	7.1800e-003	4.1000e-004	7.5800e-003	0.0000	40.6097	40.6097	2.3000e-003	0.0000	40.6671

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3.3 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	0.0589	0.5387	0.5645	9.3000e-004		0.0279	0.0279		0.0263	0.0263	0.0000	79.9452	79.9452	0.0192	0.0000	80.4240
Total	0.0589	0.5387	0.5645	9.3000e-004		0.0279	0.0279		0.0263	0.0263	0.0000	79.9452	79.9452	0.0192	0.0000	80.4240

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	8.0000e-004	0.0248	5.5800e-003	7.0000e-005	1.6000e-003	7.0000e-005	1.6700e-003	4.6000e-004	7.0000e-005	5.3000e-004	0.0000	6.4290	6.4290	5.1000e-004	0.0000	6.4417
Worker	3.0700e-003	1.8800e-003	0.0215	6.0000e-005	6.3200e-003	5.0000e-005	6.3700e-003	1.6800e-003	4.0000e-005	1.7200e-003	0.0000	5.4379	5.4379	1.5000e-004	0.0000	5.4416
Total	3.8700e-003	0.0267	0.0270	1.3000e-004	7.9200e-003	1.2000e-004	8.0400e-003	2.1400e-003	1.1000e-004	2.2500e-003	0.0000	11.8669	11.8669	6.6000e-004	0.0000	11.8834

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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	0.0589	0.5387	0.5645	9.3000e-004		0.0279	0.0279		0.0263	0.0263	0.0000	79.9451	79.9451	0.0192	0.0000	80.4239
Total	0.0589	0.5387	0.5645	9.3000e-004		0.0279	0.0279		0.0263	0.0263	0.0000	79.9451	79.9451	0.0192	0.0000	80.4239

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	8.0000e-004	0.0248	5.5800e-003	7.0000e-005	1.6000e-003	7.0000e-005	1.6700e-003	4.6000e-004	7.0000e-005	5.3000e-004	0.0000	6.4290	6.4290	5.1000e-004	0.0000	6.4417
Worker	3.0700e-003	1.8800e-003	0.0215	6.0000e-005	6.3200e-003	5.0000e-005	6.3700e-003	1.6800e-003	4.0000e-005	1.7200e-003	0.0000	5.4379	5.4379	1.5000e-004	0.0000	5.4416
Total	3.8700e-003	0.0267	0.0270	1.3000e-004	7.9200e-003	1.2000e-004	8.0400e-003	2.1400e-003	1.1000e-004	2.2500e-003	0.0000	11.8669	11.8669	6.6000e-004	0.0000	11.8834

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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	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895

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	5.8000e-004	3.6000e-004	4.0500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0280	1.0280	3.0000e-005	0.0000	1.0287
Total	5.8000e-004	3.6000e-004	4.0500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0280	1.0280	3.0000e-005	0.0000	1.0287

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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	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895

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	5.8000e-004	3.6000e-004	4.0500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0280	1.0280	3.0000e-005	0.0000	1.0287
Total	5.8000e-004	3.6000e-004	4.0500e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0280	1.0280	3.0000e-005	0.0000	1.0287

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3.5 Architectural Coating - 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					
Archit. Coating	0.3548					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	0.3568	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574

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	1.9000e-004	1.2000e-004	1.3500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3427	0.3427	1.0000e-005	0.0000	0.3429
Total	1.9000e-004	1.2000e-004	1.3500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3427	0.3427	1.0000e-005	0.0000	0.3429

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3.5 Architectural Coating - 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	tons/yr										MT/yr					
Archit. Coating	0.3548					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	0.3568	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574

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	1.9000e-004	1.2000e-004	1.3500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3427	0.3427	1.0000e-005	0.0000	0.3429
Total	1.9000e-004	1.2000e-004	1.3500e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3427	0.3427	1.0000e-005	0.0000	0.3429

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

- Improve Walkability Design
- Improve Destination Accessibility
- Increase Transit Accessibility
- Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1994	0.5954	2.3121	6.4400e-003	0.5845	6.0000e-003	0.5905	0.1565	5.5800e-003	0.1621	0.0000	589.2964	589.2964	0.0337	0.0000	590.1390
Unmitigated	0.2034	0.6206	2.4430	6.8800e-003	0.6278	6.3900e-003	0.6342	0.1681	5.9500e-003	0.1740	0.0000	630.2305	630.2305	0.0355	0.0000	631.1175

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	594.72	601.02	535.50	1,680,598	1,564,637
Total	594.72	601.02	535.50	1,680,598	1,564,637

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	42.30	19.60	38.10	86	11	3

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.511000	0.223100	0.169000	0.059300	0.000800	0.001000	0.007400	0.017300	0.000000	0.004400	0.002500	0.001200	0.003000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive 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	31.0343	31.0343	3.1000e-003	6.4000e-004	31.3033
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	72.6014	72.6014	7.2600e-003	1.5000e-003	73.2305
NaturalGas Mitigated	8.3500e-003	0.0713	0.0304	4.6000e-004		5.7700e-003	5.7700e-003		5.7700e-003	5.7700e-003	0.0000	82.6215	82.6215	1.5800e-003	1.5100e-003	83.1125
NaturalGas Unmitigated	8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	87.8982	87.8982	1.6800e-003	1.6100e-003	88.4205

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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					
Single Family Housing	1.64715e+006	8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	87.8982	87.8982	1.6800e-003	1.6100e-003	88.4205
Total		8.8800e-003	0.0759	0.0323	4.8000e-004		6.1400e-003	6.1400e-003		6.1400e-003	6.1400e-003	0.0000	87.8982	87.8982	1.6800e-003	1.6100e-003	88.4205

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					
Single Family Housing	1.54827e+006	8.3500e-003	0.0713	0.0304	4.6000e-004		5.7700e-003	5.7700e-003		5.7700e-003	5.7700e-003	0.0000	82.6215	82.6215	1.5800e-003	1.5100e-003	83.1125
Total		8.3500e-003	0.0713	0.0304	4.6000e-004		5.7700e-003	5.7700e-003		5.7700e-003	5.7700e-003	0.0000	82.6215	82.6215	1.5800e-003	1.5100e-003	83.1125

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5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	551927	72.6014	7.2600e-003	1.5000e-003	73.2305
Total		72.6014	7.2600e-003	1.5000e-003	73.2305

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	235928	31.0343	3.1000e-003	6.4000e-004	31.3033
Total		31.0343	3.1000e-003	6.4000e-004	31.3033

6.0 Area Detail**6.1 Mitigation Measures Area**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4951	0.0289	0.4766	1.8000e-004		4.5000e-003	4.5000e-003		4.5000e-003	4.5000e-003	0.0000	28.0562	28.0562	1.2500e-003	5.0000e-004	28.2366
Unmitigated	0.4951	0.0289	0.4766	1.8000e-004		4.5000e-003	4.5000e-003		4.5000e-003	4.5000e-003	0.0000	28.0562	28.0562	1.2500e-003	5.0000e-004	28.2366

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	0.0355					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4429					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.7600e-003	0.0236	0.0100	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	27.2921	27.2921	5.2000e-004	5.0000e-004	27.4543
Landscaping	0.0140	5.3800e-003	0.4666	2.0000e-005		2.5900e-003	2.5900e-003		2.5900e-003	2.5900e-003	0.0000	0.7641	0.7641	7.3000e-004	0.0000	0.7823
Total	0.4951	0.0290	0.4766	1.7000e-004		4.5000e-003	4.5000e-003		4.5000e-003	4.5000e-003	0.0000	28.0562	28.0562	1.2500e-003	5.0000e-004	28.2366

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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	0.0355					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4429					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.7600e-003	0.0236	0.0100	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	27.2921	27.2921	5.2000e-004	5.0000e-004	27.4543
Landscaping	0.0140	5.3800e-003	0.4666	2.0000e-005		2.5900e-003	2.5900e-003		2.5900e-003	2.5900e-003	0.0000	0.7641	0.7641	7.3000e-004	0.0000	0.7823
Total	0.4951	0.0290	0.4766	1.7000e-004		4.5000e-003	4.5000e-003		4.5000e-003	4.5000e-003	0.0000	28.0562	28.0562	1.2500e-003	5.0000e-004	28.2366

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.4152	0.1342	3.2400e-003	9.7358
Unmitigated	5.4152	0.1342	3.2400e-003	9.7358

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	4.1047 / 2.58775	5.4152	0.1342	3.2400e-003	9.7358
Total		5.4152	0.1342	3.2400e-003	9.7358

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	4.1047 / 2.58775	5.4152	0.1342	3.2400e-003	9.7358
Total		5.4152	0.1342	3.2400e-003	9.7358

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	35.2250	2.0817	0.0000	87.2685
Unmitigated	35.2250	2.0817	0.0000	87.2685

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	173.53	35.2250	2.0817	0.0000	87.2685
Total		35.2250	2.0817	0.0000	87.2685

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	173.53	35.2250	2.0817	0.0000	87.2685
Total		35.2250	2.0817	0.0000	87.2685

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

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

Equipment Type	Number
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11.0 Vegetation
