



## Waterline Improvement Project

### Public Review Draft Initial Study – Mitigated Negative Declaration

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*prepared with the assistance of*

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**April 2024**



RINCON CONSULTANTS, INC. SINCE 1994

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# Initial Study

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## 1. Project Title

Waterline Improvement Project (project)

## 2. Lead Agency/Project Sponsor and Contact

### **Lead Agency/Project Sponsor**

Oceano Community Services District  
1655 Front Street  
Oceano, California 93445

### **Contact Person**

Paavo Ogren, Interim General Manager  
Oceano Community Services District  
(805) 481-6730  
paavo@oceanocsd.org

## 3. Project Location

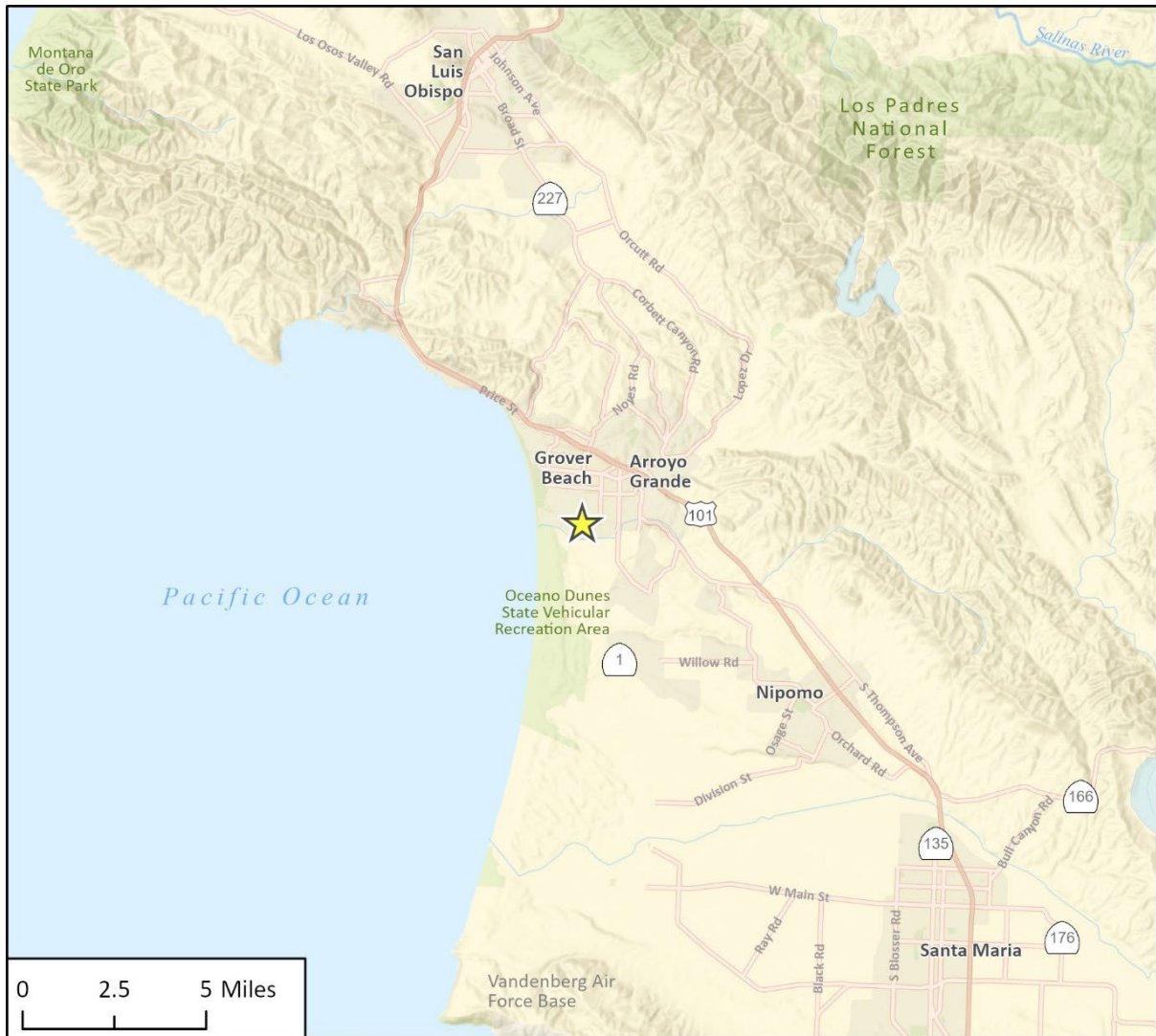
The proposed project consists of multiple pipeline segments from the Oceano Community Services District (OCSD) Capital Improvement Plan (CIP). The pipeline segments are located primarily within the unincorporated community of Oceano in San Luis Obispo County, California. All but two pipeline segments associated with the project are located within the OCSD service boundary, with the remaining two pipeline segments located immediately adjacent to OCSD's northeastern boundary in the city of Arroyo Grande. Pipeline alignments would be located within the public right-of-way (ROW) within paved roads and dirt shoulders.

Figure 1 shows the project's regional context. Figure 2 shows the location of each proposed improvement with pipeline segment labels. Representative site photos are shown in Figure 3. Regional access would be provided by Cabrillo Highway (State Route [SR] 1) and U.S. 101.

## 4. Project Setting and Surrounding Land Uses

The pipeline alignment is primarily surrounded by residential, industrial, commercial, and recreational land uses. Oceano Elementary School is located east of CIP Segment 2-5, west of CIP Segments 2-7 and 2-8, and south of CIP Segment 3-3. Fairgrove Elementary School is located west of Segment 3-10. Oceano Park is located west of CIP Segment 1-5.

Figure 1 Regional Location



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22-13146 Waterline Improvement  
Fig. 1 Regional Location

★ Project Location

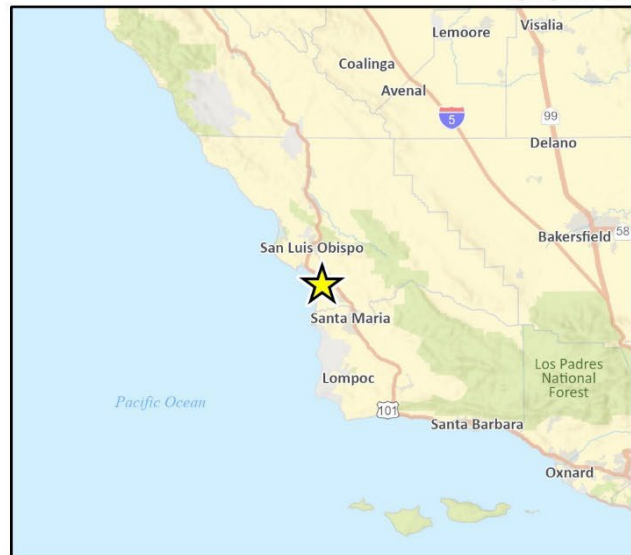
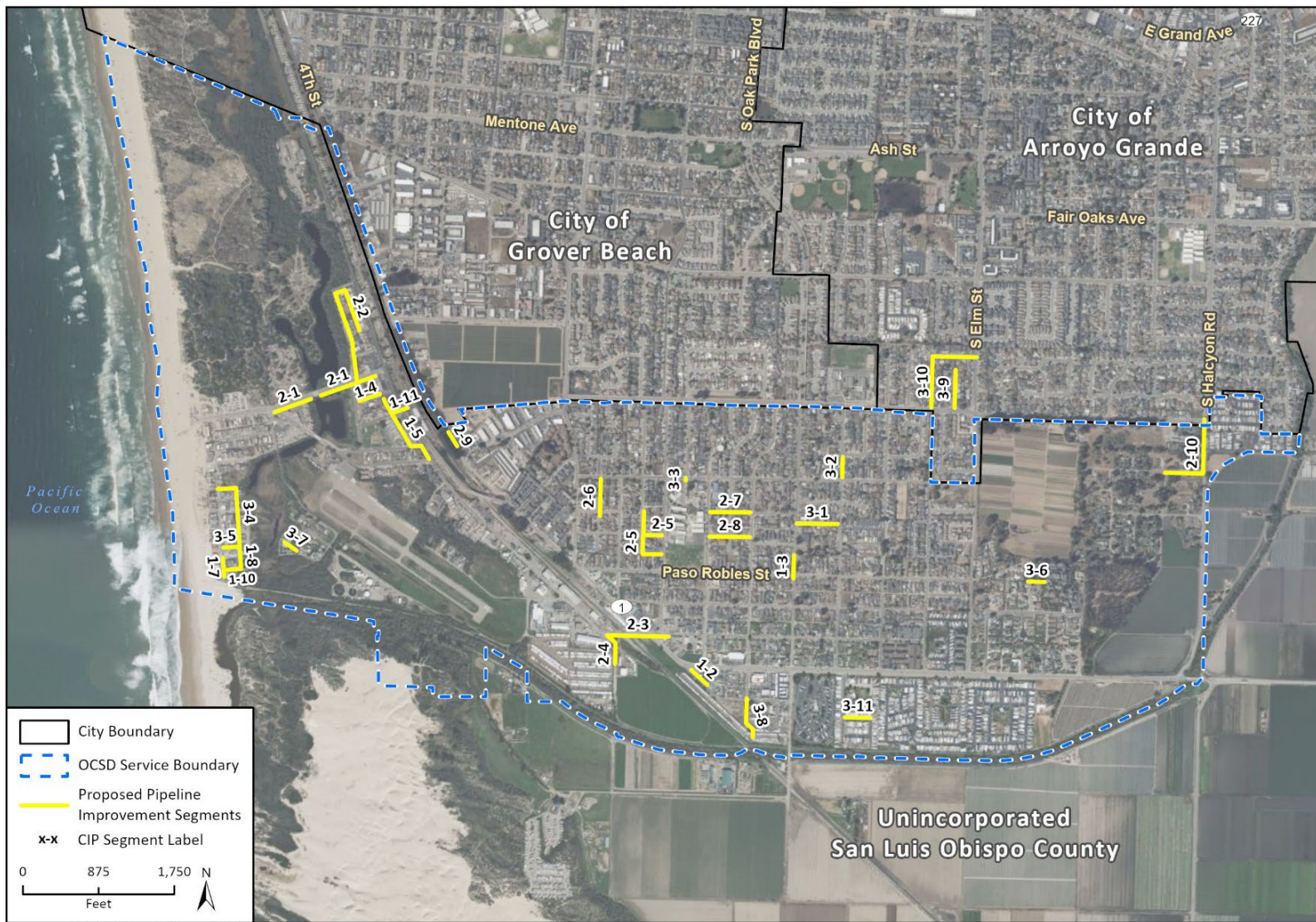


Figure 2 Project Location



**Figure 3 Site Photographs**



**Photograph 1.** View facing northeast in residential neighborhood at southern end of Segment 2-2.



**Photograph 2.** View facing north in residential neighborhood along Segment 1-7.



**Photograph 3.** View facing north in developed area within residential neighborhood along Segment 3-1.



**Photograph 4.** View facing east in a landscaped area along Segment 2-10, within a residential neighborhood in Halcyon.



## 5. Coastal Zone

The project's pipeline segments located west of SR 1 are situated in the Coastal Zone, as established by the California Coastal Commission. The California Coastal Commission has planning, regulatory, and permitting responsibilities, in partnership with local governments, for development occurring within the Coastal Zone, an area along the coastline of California. The County of San Luis Obispo maintains a Local Coastal Program (LCP), a planning document identifying allowable development within the Coastal Zone that must be certified by the California Coastal Commission. The LCP allows the County to issue Coastal Development Permits (CDPs), which are required for development in the Coastal Zone. The project could potentially require a CDP from the County of San Luis Obispo.

## 6. General Plan Designation

The pipeline alignment is located within existing public roadway ROW and does not have a land use designation.

## 7. Zoning

The pipeline alignment is located within existing public roadway ROW and is not zoned.

## 8. Project Description

### **Project Background**

OCSD is a multi-service special district providing fire protection, sewer collection and water services, solid waste, parks and recreation, and street lighting to residents and businesses in the communities of Oceano and Halcyon in San Luis Obispo County, California. OCSD currently provides water service to approximately 2,200 connections through a water system comprised of approximately 22.5 miles of pipelines. The existing pipelines vary in age from recently installed to almost 70 years old. Although a portion of the OCSD's water system was installed or replaced in the 1980s and 1990s, several water mains<sup>1</sup> in the existing system are approaching the end of their useful life expectancy. These outdated pipelines are at risk of breakage and leakage. Furthermore, the existing pipeline system contains sections of undersized pipelines that do not provide adequate fire flow at the minimum operational pressure of 20 pound-force per square inch. There are also an estimated 25 dead ends<sup>2</sup> reported in the existing pipeline system.

To address the deficiencies described above, the OCSD CIP identifies specific pipeline projects needed to upgrade and repair the system. The CIP ranks each project as either Priority 1, 2, or 3 (OCSD 2022).

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<sup>1</sup> A water main is a primary underground pipe in a municipal water distribution system.

<sup>2</sup> A pipeline dead end is a pipe that is completely closed off.

## Project Overview

The Waterline Improvement Project (“project” or “proposed project”) would consist of a combination of Priority 1, 2, and 3 pipeline project segments selected from the CIP, as shown in Figure 2, above, and Table 1, below.

The proposed project would include the following components, which would be installed within existing ROW on previously disturbed surfaces:

- Installation of new pipeline main sections;
- Replacement of existing main pipeline sections with upsized pipes;
- Extension of dead-end pipeline to form pipeline loops;
- Installation of an emergency intertie with the City of Arroyo Grande system (at the intersection of Halcyon and The Pike); and
- Replacement and installation of control valves in the pipeline system.

**Table 1 CIP Segments List**

Segment No.	Description	Existing Diameter (inch)	Proposed Diameter (inch)	Length (LF)	Construction Method
1-2	Cabrillo Highway and Front Street	–	8	400	Open Cut
1-3	22nd Street at Paso Robles Street	–	8	225	Open Cut
1-4	Truman Drive	4	8	250	Open Cut
1-5	Railroad Street Alley (Truman Drive to Air Park)	4, 6	10	1,000	Open Cut
1-7	Strand Way (South of Utah Avenue)	4	8	235	Open Cut
1-8	Laguna Drive Alley (South of Utah Avenue)	4	8	130	Open Cut
1-10	Utah Avenue Alley (Strand Way to Utah Avenue)	3	8	195	Open Cut
1-11	Pershing Drive across SR 1	–	8	200	Jack and Bore
2-1	Pier Avenue (Lakeside to SR 1)	6	10	1,140	Open Cut
2-2	Norswing Drive Loop (North of Pier Avenue)	4 <sup>1</sup>	8	1,750	Open Cut
2-3	Railroad Street (Creek Road to 17 <sup>th</sup> Street)	–	8	650	Jack and Bore
2-4	Creek Road (Sand Dollar to Railroad Street)	–	8	480	Open Cut
2-5	16 <sup>th</sup> Street at Warner Street	2, 4, 6	8	940	Open Cut
2-6	14 <sup>th</sup> Street at Wilmar Avenue	2	8	380	Open Cut
2-7	Vista Street (19 <sup>th</sup> Street to 21 <sup>st</sup> Street)	2	8	480	Open Cut
2-8	Warner Street (19 <sup>th</sup> Street to 21 <sup>st</sup> Street)	2	8	480	Open Cut
2-9	South 4th Street Upgrade	2	8	200	Open Cut
2-10	Temple Street and Halcyon Road	–	12	1,075	Open Cut

Oceano Community Services District  
**Waterline Improvement Project**

Segment No.	Description	Existing Diameter (inch)	Proposed Diameter (inch)	Length (LF)	Construction Method
3-1	La Verne Avenue (22 <sup>nd</sup> Street to 23 <sup>rd</sup> Street)	4	8	500	Open Cut
3-2	23 <sup>rd</sup> Street at Wilmar Avenue	4	8	300	Open Cut
3-3	18 <sup>th</sup> Street at Wilmar Avenue	4	8	40	Open Cut
3-4	Laguna Drive Alley (Utah Avenue to Strand Way)	4	8	940	Open Cut
3-5	Utah Avenue Alley (York Avenue to Utah Avenue)	3	8	195	Open Cut
3-6	Rochelle Way Loop	–	8	200	Open Cut
3-7	Security Court at Sunset Lane	2	8	280	Open Cut
3-8	21 <sup>st</sup> Street at River Avenue	–	8	690	Open Cut
3-9	La Vista Court at The Pike	4	8	425	Open Cut
3-10	Lancaster Drive at The Pike	4	8	1,150	Open Cut
3-11	Trinidad Dive at Martinique Drive	4	8	300	Open Cut
<b>Total Linear Feet</b>				<b>15,230</b>	

<sup>1</sup> In this segment, the project would replace/upsized a portion of existing pipeline and also install a portion of new pipeline.

## Construction

Project construction would utilize a combination of open-cut trenching and trenchless jack-and-bore construction techniques. The following is a general description of each phase of construction:

- **Site Preparation.** The existing pavement along the pipeline alignment would be cut with a concrete saw or otherwise broken and removed using jackhammers, pavement breakers, and loaders. Other similar equipment may be used. The pavement would then be removed from the project site and recycled or disposed of at an appropriate facility.
- **Pipeline Installation (open-cut trenching).** Open-cut trenching typically consists of trench excavation (including saw cutting of pavement where applicable), shoring to stabilize the pipe bed, pipe installation, and backfilling. Construction usually progresses along the alignment with the maximum length of open trench at one time being approximately 500 feet in length.
- **Pipeline Installation (jack-and-bore).** Jack-and-boring, or trenchless installation, typically consists of excavation of the launching and receiving pits (including saw cutting of pavement where applicable), installation of the shoring system and boring equipment, installation of steel casing and pipeline, removal of equipment, and backfilling. The trenchless installation would be performed by operating a crane to lower and remove equipment and materials. Jack-and-bore installation would be used to install two pipeline segments; Segment 1-11, which would traverse SR 1, and Segment 2-3, which would traverse the Union Pacific railroad tracks. These segments are shown in Figure 2.
- **Paving/Ground Restoration.** Any portion of the roadway or landscaped areas damaged by construction activities would be repaved or restored in accordance with all applicable Arroyo Grande or San Luis Obispo County standards. Once the pavement has been restored, traffic delineation (striping) would also be restored.

The project would result in approximately 76,150 square feet, or approximately 1.75 acres, of ground disturbance, and a typical maximum excavation depth of up to five feet. Where the pipeline would need to cross below an existing utility or drainage channel, the depths may be greater and would depend on the characteristics of the utility or channel.

Construction activities are anticipated to excavate approximately 6,000 cubic yards (cy) of pavement and soil, 3,000 cy of which would be temporarily stockpiled on site and used as backfill upon completion of pipeline installation. Generally, trench spoils would be temporarily stockpiled within the construction staging and storage area adjacent to each pipeline segment. However, storage of supplies, materials, and equipment would ultimately depend on the contractor and subcontractors. Approximately 2,400 cy of soil would be imported from off-site. The remaining 3,000 cy of excavated soil would be hauled away for re-use or disposal at an appropriately licensed facility.

If groundwater dewatering is required based on site conditions, groundwater would be discharged into either: 1) the storm drain, 2) the sanitary sewer, or 3) nearby existing recharge, retention, or detention basins. The project would adhere to applicable rules and regulations related to discharge, including the County of San Luis Obispo National Pollutant Discharge Elimination System (NPDES) Permit as well as discharge requirements established by the South San Luis Obispo County Sanitation District. The project would not discharge dewatered groundwater into storm drains leading to Arroyo Grande Creek or other local surface freshwater bodies if practicable. If groundwater must be dewatered into storm drains discharging to local surface water bodies, dewatered groundwater would be temporarily stored in baker tanks and water quality would be tested prior to discharge, consistent with permit requirements.

### *Construction Schedule*

For analysis purposes, project construction was assumed to occur between January and December 2025. Implementation of the project would likely be phased based on either location or priority. Construction activities would generally take place Monday through Friday between 7:00 a.m. and 3:30 p.m. No nighttime construction is proposed. Based on approximately 130 days of construction and 15,230 linear feet of pipeline included in the project, it is assumed that approximately 118 linear feet of pipeline would be installed per day.<sup>3</sup>

## **Operation and Maintenance**

Existing operation and maintenance activities associated with OCSD's water system would be substantially reduced once all CIP segments are implemented. Specifically, there would be an overall reduction in reactive maintenance activities including main breaks, leaks, service calls, and line flushing. Such a reduction in reactive maintenance would allow water system pumps, motors, wells, and plant piping to be upgraded and better maintained, resulting in an overall increase in the longevity of those facilities. A reduction in reactive maintenance would also allow for the routine exercising of equipment and the replacement of old meters to more accurately track and bill customer water use. Furthermore, replacement of water mains associated with the proposed project would allow OCSD staff to focus on maintaining high water quality levels and optimizing water supplies from all sources.

The emergency intertie between the OCSD system and the City of Arroyo Grande system would be located on Segment 2-10 along Halcyon Road. This intertie would be installed for emergency purposes only and would not alter the water supply capacity of either system.

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<sup>3</sup> Total pipeline (15,230 linear feet) divide by total trench and trenchless construction days (130 days) = 118 linear feet per day

## Best Management Practices

### *County of San Luis Obispo Public Improvement Standards*

The proposed project would adhere to the most current version of the County of San Luis Obispo Public Improvement Standards (2022, at the time of preparation of this document), which include design standards and construction specifications for projects involving public roadways as well as Best Management Practices (BMPs). The following project BMPs are informed by measures required in the 2022 Public Improvement Standards:

- **Erosion Control BMPs.** Sediment and erosion control BMPs would be implemented, including pollutant source control, protection of stockpiles, protection of slopes, protection of all disturbed areas, protection of site access points, and perimeter containment measures. The intent of the sediment and erosion control BMPs would be to prevent disturbed sediment from entering drainage conveyances, generating fugitive dust, or migrating onto adjacent properties or the public ROW.
- **Traffic Control BMPs.** Construction signs and other necessary traffic control devices would be installed prior to the commencement of work. All private driveways and side streets would be kept open at all times, except when construction takes place immediately in front of the driveway or side street. At the conclusion of each workday, all paved traveled-way surfaces would be restored to an all-weather, traversable condition.

## 9. Other Public Agencies Whose Approval is Required

OCSD is the lead agency under the California Environmental Quality Act (CEQA) with responsibility for approving the project. This project would require permits from other public agencies, outlined below in Table 2. The encroachment permits may establish additional construction, utility, and traffic control requirements.

**Table 2 Summary of Potentially Required Approvals**

Regulating Agency	Potential Permit/Approval	Reason for Permit/Approval
California Department of Transportation (Caltrans)	Encroachment Permit	Construction of CIP Segments 1-11 and 2-4
State Water Resources Control Board, Central Coast Regional Water Quality Control Board	National Pollutant Discharge Elimination System (NPDES) Construction General Permit, NPDES General Permit for Discharges of Groundwater from Construction	Construction activities resulting in ground disturbance exceeding one acre, discharge of groundwater encountered during construction
California Coastal Commission	Coastal Development Permit	Construction of pipeline segments within Coastal Zone
County of San Luis Obispo	Encroachment Permit	Construction of CIP Segments 1-2 through 3-8
City of Arroyo Grande	Encroachment Permit	Construction of CIP Segments 3-9 and 3-10

# Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is “Potentially Significant” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages. The checklist is based upon the CEQA Guidelines Appendix G Initial Study checklist.

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

## Determination

Based on this initial evaluation:

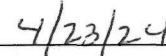
- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to 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 “less than significant with mitigation incorporated” 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. A SUPPLEMENTAL ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

Oceano Community Services District  
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- I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



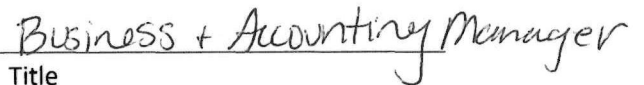
\_\_\_\_\_  
Signature



\_\_\_\_\_  
Date



\_\_\_\_\_  
Printed Name



\_\_\_\_\_  
Title

Oceano Community Services District  
**Waterline Improvement Project**

- I find that although the proposed project could have a significant effect on the environment, because all potential 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.

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Signature

---

Date

---

Printed Name

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Title



# Environmental Checklist

## 1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
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 a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### Impact Analysis

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

A scenic vista is usually defined as a panoramic view from an elevated position or a long-range view from a public vantage point. Scenic vistas in San Luis Obispo County include views of mountains and ridgelines, unique geological forms, bays and the coastline, open meadows, riparian corridors, wetland areas, forested areas, open spaces, and agricultural areas (County of San Luis Obispo 2010). Scenic vistas along the pipeline segments primarily consist of views of the coastline and the Oceano Lagoon to the west, distant views of the Santa Lucia Mountain Range to the north, and views of agricultural lands to the east.

The proposed pipeline segments are surrounded by residential, industrial, commercial, and recreational land uses (see Figure 3 for representative photographs of existing site conditions along

the pipeline segments). During construction of the project, scenic vistas visible from the project site would be temporarily impaired by the staging and operation of construction equipment. Up to 500 feet of scenic vistas would be temporarily impaired at any given time as construction activities move along the pipeline segments. Once construction of the pipeline segments is complete, the project would not result in permanent aesthetic changes that would alter scenic vistas from their existing conditions because the segments would be located entirely underground. In addition, no trees would be removed due to construction of the project, and any damaged features, including landscaped areas and roadway pavement, would be restored. Therefore, the proposed pipeline would not have a substantial adverse impact on scenic vistas or scenic resources. No impact would occur.

**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?*

There are no officially designated state or county scenic highways in the vicinity of the pipeline segments (California Department of Transportation [Caltrans] 2019 and 2022a). Furthermore, the Oceano Specific Plan does not identify any locally-designated scenic routes (County of San Luis Obispo 2001). Therefore, the project would not damage scenic resources within a state scenic highway. No impact would occur.

**NO IMPACT**

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

According to Public Resources Code Section 21071(b), an unincorporated area is considered “urbanized” if 1) the area is completely surrounded by one or more incorporated cities, the total population of the unincorporated area and the surrounding cities is at least 100,000 persons, and the population density of the unincorporated area is at least equal to the population density of the surrounding cities; or 2) the area is located within an urban growth boundary and has an existing residential population of at least 5,000 persons per square mile. The pipeline segments are located in unincorporated San Luis Obispo County and the city of Arroyo Grande. The general project area is bordered by the city of Grover Beach to the north. No incorporated cities are located to the south or east of the area. In addition, the project site is not located within an urban growth boundary. Therefore, the project site is located in a non-urbanized area.

Existing visual character and quality of public views would be temporarily impaired during construction of the project by the staging and operation of construction equipment. However, upon completion of construction, the pipelines would be located entirely underground. In addition, no trees would be removed due to construction of the project, and any damaged features, including landscaped areas and roadway pavement, would be restored. Therefore, the project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. No impact would occur.

**NO IMPACT**

- d. *Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?*

Construction of the project would occur during daytime hours and would generally not require the use of lighting. However, construction lighting may be required during the afternoon hours in the late fall and early winter months. In this case, lights may be visible from surrounding roadways and land uses. Any lights used during construction activities would create a new temporary light source that would otherwise not be present. Construction lighting would not face toward adjacent land uses and would instead be directed down towards construction activities. Furthermore, during installation or replacement of the proposed pipeline segments and control valves, the active construction area and any associated lighting would be continuously moving along the length of the pipeline segments as each segment is installed or replaced, making construction lighting impacts both temporary and short-term. Therefore, the project would not create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the vicinity of the project site. Once construction is complete, the project would not create a new source of light or glare because the proposed pipeline segments would be located underground. Therefore, impacts related to light and glare would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

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## 2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on 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"/>

### Impact Analysis

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

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

The project site is not zoned or designated for agricultural use (County of San Luis Obispo 2001; City of Arroyo Grande 2018). Some pipeline segments are located adjacent to lands classified as Prime Farmland (DOC 2018). Similarly, some pipeline segments are located adjacent to lands enrolled under the Williamson Act (DOC 2017). However, the project would be constructed entirely within previously disturbed ROW and would not require additional ground disturbance in adjacent agricultural areas. Therefore, the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use nor would the project conflict with zoning for agricultural use or a Williamson Act contract. No impact to agricultural resources would occur.

The project site is not zoned for forest land or timberland and is not located on or near forest land (County of San Luis Obispo 2001; City of Arroyo Grande 2018). Therefore, the project would not involve changes to the existing environment that could result in the loss of forest land or the conversion of forest land to non-forest use. No impact to forestry resources would occur.

**NO IMPACT**

### 3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

#### Overview of Air Pollution

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for “criteria pollutants” and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),<sup>4</sup> nitrogen oxides (NO<sub>x</sub>), particulate matter with diameters of ten microns or less (PM<sub>10</sub>) and 2.5 microns or less (PM<sub>2.5</sub>), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between ROG and NO<sub>x</sub>. Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog).

Air pollutant emissions are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

- Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.

<sup>4</sup> CARB defines VOC and ROG similarly as, “any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this IS-MND.

- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources that may be legally operated on roadways and highways.
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

## Air Quality Standards and Attainment

The project site is located in the South Central Coast Air Basin (SCCAB), which includes San Luis Obispo, Santa Barbara, and Ventura Counties. The project site is under the jurisdiction of the San Luis Obispo County Air Pollution Control District (SLOCAPCD). As the local air quality management agency, SLOCAPCD is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether or not the standards are met or exceeded, San Luis Obispo County is classified as being in “attainment” or “nonattainment.” In areas designated as nonattainment for one or more air pollutants, a cumulative air quality impact exists for those air pollutants. The human health effects associated with these criteria pollutants, presented in Table 3, is already occurring in those areas as part of the environmental baseline condition. Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-attainment.

**Table 3 Health Effects Associated with Criteria Pollutants**

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Carbon monoxide (CO)	Reduces oxygen delivery leading to: (1) aggravation of chest pain (angina pectoris) and other aspects of coronary heart disease; (2) decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (3) impairment of central nervous system functions; and (4) possible increased risk to fetuses.
Nitrogen dioxide (NO <sub>2</sub> )	(1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (2) risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (3) contribution to atmospheric discoloration.
Sulfur dioxide	(1) Bronchoconstriction accompanied by symptoms that may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma.
Suspended particulate matter	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma). <sup>1</sup>



Pollutant	Adverse Effects
Suspended particulate matter	(1) Excess deaths from short- and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes, including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children, such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease, including asthma.
Lead	(1) Short-term overexposures: lead poisoning can cause (a) anemia, (b) weakness, (c) kidney damage, and (d) brain damage; (2) long-term exposures: long-term exposure to lead increases risk for (a) high blood pressure, (b) heart disease, (c) kidney failure, and (d) reduced fertility.

Source: United States Environmental Protection Agency (U.S. EPA) 2022

The NAAQS and CAAQS attainment statuses for the San Luis Obispo County are listed in Table 4. As of January 2019 (the last date that SLOAPCD’s attainment status was updated), San Luis Obispo County is in non-attainment for the 1-hour and 8-hour State standards for ozone and the 24-hour and annual State standards for PM<sub>10</sub> (SLOAPCD 2019). San Luis Obispo County is designated as attainment or unclassified for all other federal and state standards.

**Table 4 San Luis Obispo County Attainment Status**

Pollutant	Standard	Designation
1-Hour Ozone	NAAQS	N/A
	CAAQS	Nonattainment
8-Hour Ozone	NAAQS	Attainment
	CAAQS	Nonattainment
CO	NAAQS	Unclassified
	CAAQS	Attainment
NO <sub>2</sub>	NAAQS	Unclassified
	CAAQS	Attainment
SO <sub>2</sub>	NAAQS	Unclassifiable
	CAAQS	Attainment
PM <sub>10</sub>	NAAQS	Unclassified/Attainment
	CAAQS	Nonattainment
PM <sub>2.5</sub> (24-hour)	NAAQS	Attainment
PM <sub>2.5</sub> (Annual)	CAAQS	Attainment
Lead	NAAQS	Unclassified/Attainment
	CAAQS	Attainment
Hydrogen Sulfide	CAAQS	Attainment
Sulfates	CAAQS	Attainment

NAAQS: National Ambient Air Quality Standards; CAAQS: California Ambient Air Quality Standards; CO: carbon monoxide; PM<sub>10</sub>: particulate matter 10 microns or less in size; PM<sub>2.5</sub>: particulate matter 2.5 microns or less in size; NO<sub>2</sub>: nitrogen dioxide; SO<sub>2</sub>: sulfur dioxide

Source: SLOAPCD 2019, CARB 2020

## **San Luis Obispo County Air Pollution Control District**

SLOAPCD regulates air quality in the portion of the SCCAB that is in San Luis Obispo County and is responsible for attainment planning related to criteria air pollutants, and for district rule development and enforcement. Under state law, the SLOAPCD is required to prepare an overall plan for air quality improvement for their jurisdiction within the SCCAB, which is known as the Clean Air Plan. The most recent Clean Air Plan was prepared in 2001. The 2001 Clean Air Plan is the third update to the original 1991 Clean Air Plan, adopted in 1992.<sup>5</sup> The 2001 Clean Air Plan describes the air quality setting for the County in detail, including the local climate and meteorology, current and projected air quality, and the regulatory framework for the management of air quality. The 2001 Clean Air Plan is intended to bring the County into attainment of the State ozone standard through a comprehensive set of control measures designed to reduce ozone precursor emissions from a wide variety of stationary and mobile sources.

In July 2005, SLOAPCD adopted a Particulate Matter Report in order to update the jurisdiction's control measures for particulate matter, as required by SB 656. In 2015, SLOAPCD adopted an Ambient Air Monitoring Network Assessment in order to identify and analyze its historic and current air monitoring sites. The Ambient Air Monitoring Network Assessment was updated in June 2019. In September 2019, SLOAPCD adopted an Ozone Emergency Episode Plan, in compliance with the Federal Clean Air Act, in order to provide the basis for taking actions when ambient ozone concentrations reach a level that could endanger public health in San Luis Obispo County.

### **Air Emission Thresholds**

The SLOAPCD (2012, 2017) has adopted the CEQA Air Quality Handbook for quantifying and determining the significance of air quality emissions. The quarterly construction thresholds apply to projects that would be completed in more than one quarter. Quarterly thresholds are subdivided into Tier 1 and Tier 2 mitigation requirements. For projects exceeding 2.5 tons per quarter for ROG and NO<sub>x</sub> combined, and PM<sub>10</sub> fugitive dust, standard mitigation measures and Best Available Control Technology (BACT) for construction equipment would be applied. Projects exceeding the higher Tier 2 threshold, 6.3 tons per quarter ROG and NO<sub>x</sub> combined, and PM<sub>10</sub> fugitive dust, are required to implement more stringent mitigation measures such as construction activity management plan and off-site mitigation. As of October 2016, the SLOAPCD has determined that projects shall implement Standard Mitigation Measures anytime a project exceeds the ROG and NO<sub>x</sub> threshold of 137 lbs. per day, regardless of whether or not it is over 90 days (1 quarter).

Thresholds of significance contained in the CEQA Air Quality Handbook include the following for Tier 1 construction activities and Operational emissions:

- SLOAPCD considers construction emissions to be significant if the project would generate more than 137 pounds of ROG and NO<sub>x</sub> (combined) daily, or 2.5 tons of ROG and NO<sub>x</sub> (combined) quarterly (Tier 1).
- SLOAPCD considers construction emissions to be significant if the project would generate more than 0.13 tons of diesel particulate matter quarterly (Tier 1).
- SLOAPCD considers construction emissions to be significant if the project would generate more than 2.5 tons of PM<sub>10</sub> quarterly.
- SLOAPCD has not established quantitative thresholds for CO for construction.

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<sup>5</sup> The 2001 CAP is incorporated by reference and is available for review at the SLOAPCD website, [www.slocleanair.org](http://www.slocleanair.org).

- SLOAPCD considers operational air quality impacts to be significant if the project would generate more than 25 pounds per day of ROG and NO<sub>x</sub> (combined), 1.25 pounds per day of diesel particulate matter (DPM), 25 pounds per day of PM<sub>10</sub>, or 550 pounds per day of CO.
- SLOAPCD considers operational air quality impacts to be significant if the project would generate more than 25 tons per year of ROG and NO<sub>x</sub> (combined), or 25 tons per year of PM<sub>10</sub>.

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

Consistency with the Clean Air Plan means that stationary and vehicle emissions associated with the project are accounted for in the Clean Air Plan's growth assumptions. According to the SLOAPCD guidelines, a project may result in significant air quality impacts if it is inconsistent with the assumptions in the SLOAPCD Clean Air Plan. Consistency with the SLOAPCD Clean Air Plan is evaluated based on three criteria: whether the project would be consistent with applicable population projections, whether the project would result in an increase in vehicle trips and miles traveled at a higher rate than the rate of population growth, and whether the project includes Land Use and Transportation Control Measures (TCMs) and Land Use Strategies from the Clean Air Plan.

The proposed project would involve water pipeline improvements to address water system deficiencies and provide adequate fire flow. It would not directly generate population growth through the construction of housing, and is not intended to increase water system capacity to accommodate unplanned population growth. Given the small-scale nature of project construction activities, it is likely construction workers would be drawn from the existing, regional workforce and would not indirectly result in the relocation of people to San Luis Obispo County. The proposed project would reduce operational and maintenance vehicle trips for the pipelines; therefore, operational emissions would be reduced in comparison to existing conditions. In addition, the proposed project would not conflict with the Clean Air Plan's Land Use and TCMs because inspection and maintenance trips would occur annually for one day along the length of the segments and would reduce annual trips from existing conditions. The project would not increase the rate of privately owned vehicle use. As a result, the project would not conflict with or obstruct implementation of the Clean Air Plan; therefore, no impact would occur.

**NO IMPACT**

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?*

The proposed project would generate short-term emissions associated with project construction and minimal long-term emissions associated with inspection and maintenance trips. Construction and operational emissions were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0. CalEEMod was developed by BREEZE Software and is used by jurisdictions throughout the state to quantify criteria pollutant emissions.

Project construction would utilize a combination of open-cut trenching and trenchless jack-and-bore construction techniques, and pipeline segments would be installed in 500-foot segment increments over 130 days. An average of 118 linear feet of pipeline would be installed per day. The project was assumed to result in approximately 76,150 square feet, or approximately 1.75 acres, of ground disturbance, and a typical maximum excavation depth of up to five feet. Where the pipeline would need to cross below an existing utility or drainage channel, the depths may be greater and would depend on the characteristics of the utility or channel.

Construction activities are anticipated to excavate approximately 6,000 cubic yards (cy) of pavement and soil, 3,000 cy of which would be temporarily stockpiled on site and used as backfill upon completion of pipeline installation. Generally, trench spoils would be temporarily stockpiled within the construction staging and storage area adjacent to each pipeline segment. However, storage of supplies, materials, and equipment would ultimately depend on the contractor and subcontractors. Approximately 2,400 cy of soil would be imported from off-site. The remaining 3,000 cy of excavated soil would be hauled away for re-use or disposal at an appropriately licensed facility.

## Construction Emissions

Project construction would generate temporary air pollutant emissions associated with fugitive dust and exhaust emissions from heavy construction vehicles. The site preparation and excavation/shoring phases of the project would involve the largest use of heavy equipment and generation of fugitive dust. For the purposes of this modeling effort, it was assumed that site preparation and excavation/shoring phases would occur sequentially in four phases across Oceano. These phase areas include the Strand Area, or segments in the western portion of Oceano; the Pier Area, or segments in the northwestern portion of Oceano; the Central Area, or segments in the central portion of Oceano; and the East Area, or segments in the eastern portion of Oceano. Each of these phase areas include 10 to 15 project segments. For the purposes of this analysis, it was assumed that construction would occur west to east, from the Strand Area to the East Area, and project construction was assumed to occur between January and December 2025.

Table 5 summarizes maximum daily and quarterly pollutant emissions during construction of the project.

**Table 5 Estimated Maximum Construction Emissions**

	ROG	NO <sub>x</sub>	ROG + NO <sub>x</sub>	CO	SO <sub>2</sub>	PM <sub>10</sub>	DPM(exhaust PM <sub>2.5</sub> )
Phase Pier Area (lbs/day)	2	16	18	24	<1	1	1
Phase Central Area (lbs/day)	2	16	18	24	<1	1	1
Phase Strand Area (lbs/day)	2	16	18	24	<1	1	1
Phase East Area (lbs/day)	2	16	18	24	<1	1	1
<b>Total Maximum Construction Emissions (lbs/day)</b>	<b>2</b>	<b>16</b>	<b>18</b>	<b>24</b>	<b>&lt;1</b>	<b>1</b>	<b>1</b>
<b>SLOAPCD Daily Thresholds (lbs/day)</b>	<b>n/a</b>	<b>n/a</b>	<b>137</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>
Exceed Daily Threshold?	-	-	No	-	-	-	-
Project Construction Emissions (tons/quarter) <sup>1</sup>	<1	<1	<u>1</u>	1	<1	<1	<0.1
<b>SLOAPCD Quarterly Thresholds (Tier 1) (tons/quarter)</b>	<b>n/a</b>	<b>n/a</b>	<b>2.5</b>	<b>n/a</b>	<b>n/a</b>	<b>2.5</b>	<b>0.13</b>
Exceed Quarterly Threshold?	-	-	No	-	-	No	No

<sup>1</sup> Quarterly emissions calculated based on annual emissions divided by four (i.e., one quarter of a year)

ROG = reactive organic gases, NO<sub>x</sub> = nitrogen oxides, CO = carbon monoxide, SO<sub>2</sub> = sulfur dioxide, PM<sub>10</sub> = particulate matter 10 microns in diameter or less, DPM = diesel particulate matter; PM<sub>2.5</sub> = particulate matter 2.5 microns or less in diameter; lbs/day = pounds per day, n/a = not applicable

See Appendix A for model output results

## Operational Emissions

After completion of construction activities, operations and maintenance activities within the OCSD service area will be reduced in comparison to existing conditions. Therefore, no new operational emissions would be generated, and project operation would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard. No operational air quality impact would occur.

### LESS-THAN-SIGNIFICANT IMPACT

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

Sensitive receptors near proposed pipeline segments include but are not limited to Oceano Elementary School, located east of Segment 2-5; Fairgrove Elementary School, located west of Segment 3-10; Oceano Park, located west of Segment 1-5; and residences adjacent to most pipeline segments.

## Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs generally consist of four types: organic chemicals, such as benzene, dioxins, toluene, and perchloroethylene; inorganic chemicals such as chlorine and arsenic; fibers such as asbestos; and metals such as mercury, cadmium, chromium, and nickel. The primary TAC emitted by project implementation would be diesel particulate matter (DPM) generated by heavy-duty equipment and diesel-fueled delivery and haul trucks during construction activities. DPM was identified as a TAC by the CARB in 1998 and is primarily composed of PM<sub>10</sub> and PM<sub>2.5</sub> exhaust emissions (CARB 2022).

Health impacts associated with TACs are generally associated with long-term exposure. However, due to the minimal emissions expected from routine inspection and maintenance repairs, there are no significant sources of TACs for the operating phase of the project and, therefore, no reason to expect health impacts related to TACs. Thus, the greatest potential for TAC emissions would be during construction, which may result in a short-term increase in TAC emissions.

The greatest potential for TAC emissions during construction would be from heavy equipment operations that generate DPM emissions. Generation of DPM from construction projects typically occurs in a single area for a short period. As discussed under item (b), project construction would result in emissions of criteria pollutants, including DPM, ROG, and NO<sub>x</sub>. Such emissions would be temporary in nature and construction emissions for the proposed project would potentially be phased in four zones. Therefore, exposure within 1,000 feet of construction at a given sensitive receptor would occur for only a limited portion of the overall construction period. The project would install approximately 118 linear feet of pipeline per day<sup>6</sup> and would expose sensitive receptors to heavy equipment for approximately three to four weeks.<sup>7</sup> Thus, the project would not expose sensitive receptors to substantial pollutant concentrations. This impact would be less than significant.

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<sup>6</sup>Total pipeline (15,230 linear feet) divide by total trench and trenchless construction days (130 days) = 118 linear feet per day

<sup>7</sup>CARB recommends siting sensitive receptors 1,000 feet from TAC emitting sources (CARB 2005). A sensitive receptor would be exposed to the project construction approaching from 1,000 feet away and project construction residing 1,000 feet away. Therefore, a sensitive receptor would be exposed for 16.13 construction days = (2,000 feet divide by 124 feet installation per day).

## **San Joaquin Valley Fever**

Project construction activities, including grading and construction vehicle traffic, could generate substantial localized quantities of dust and expose sensitive receptors (i.e., nearby residents, construction workers, etc.) to potential health hazards associated with the *Coccidioides* fungus, particularly during periods of high wind. Extended periods of high heat or unusually windy conditions could increase fugitive dust emissions and the associated potential for exposure to *Coccidioides immitis* spores. OCSO and all construction contractors operating on the site would be required to implement all of California Title 8 safety and health regulations necessary to protect employees from Valley Fever, which is caused by the *Coccidioides* fungus. Soils along the pipeline segment alignments are already disturbed from construction of roadways, commercial structures, and residences. Due to the previous disturbance on the project site, disturbance of soils during construction activities is unlikely to pose a substantial risk of infection of Valley Fever to people in the project area. Furthermore, project construction activities would be required to comply with SLOAPCD Fugitive Dust Mitigation measures: Expanded List, which would reduce fugitive dust generation and further minimize the potential risk of infection. Therefore, potential impact associated with Valley Fever would be less than significant.

### **LESS-THAN-SIGNIFICANT IMPACT**

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

Project construction could generate odors associated with heavy-duty equipment operation and earth-moving activities. Such odors would be temporary in nature and limited to the duration of construction in the vicinity of the project site. In addition, because the pipeline would be constructed in segments, the adjacent residential receptors would only be exposed to construction-generated odors for a short period of time. Furthermore, the asphalt paving phase is anticipated to be two weeks in duration. Construction-related odor impacts would be less than significant.

CARB's Air Quality and Land Use Handbook: A Community Health Perspective (2005) provides recommendations regarding the siting of new sensitive land uses near potential sources of odors (e.g., sewage treatment plants, landfills, recycling facilities, biomass operations, autobody shops, fiberglass manufacturing, and livestock operations). Water pipeline operations are not identified on this list, and maintenance and repair vehicle trips would be reduced from existing condition with the implementation of the project. Thus, the proposed project would not generate objectionable odors affecting a substantial number of people, and operational-related odor impacts would be less than significant.

### **LESS-THAN-SIGNIFICANT IMPACT**

# 4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>

The analysis in this section is based on the Biological Resources Assessment/Biological Evaluation (BRA/BE) prepared for the project by Rincon Consultants, which is included as Appendix B. The BRA/BE included a field reconnaissance survey within the Biological Study Area (BSA) for the project area, which includes the pipeline alignments proposed to be repaired or replaced, plus a 25-foot buffer on either side. Rincon also conducted a literature review to characterize the nature and extent of biological resources on and adjacent to the project area. The literature review included an evaluation of current and historical aerial photographs of the site, regional and site-specific topographic maps, climatic data, and queries of the following biological resources databases:

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California
- United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation system (IPaC)
- United States Department of Agriculture Natural Resources Conservation Service Web Soil Survey
- USFWS Critical Habitat Portal
- CDFW Special Animals List
- CDFW Special Vascular Plants, Bryophytes, and Lichens List
- CDFW Biogeographic Information and Observation System

Refer to the BRA/BE (Appendix B) for the complete descriptions of the reconnaissance survey, literature review, and existing conditions.

- 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 Wildlife or U.S. Fish and Wildlife Service?*

### **Federally Listed Special Status Species**

Based on the database searches, literature review, and results of the field reconnaissance survey, 27 federally listed species were identified to have some potential to occur in the project region. Of these species, 24 were eliminated from further consideration because suitable habitat for the species is not present within the BSA, and/or the range of the species is well outside the BSA. The three remaining species with the potential to occur in the BSA include:

- La Graciosa thistle
- Monarch – California overwintering population
- California red-legged frog

La Graciosa thistle was not observed within the BSA during the field reconnaissance survey (Appendix B). However, the BSA is within the species' known elevational and geographic range. Potentially suitable habitat for La Graciosa thistle is present within the BSA near the junction of Segments 1-5 and 1-11, and along Segment 3-4. Additionally, federally designated critical habitat for La Graciosa thistle occurs approximately 0.1 mile south of the BSA within the Oceano Dunes (Appendix B). Potential direct effects to La Graciosa thistle could occur under the project via trampling if they are present within the BSA during project construction; however, due to the



limited amount of suitable habitat for this species, as well as the location of these habitats outside of the project site, no direct effects to La Graciosa thistle are expected to occur as a result of the project (Appendix B). Implementation of the BMPs outlined in Mitigation Measure BIO-1, including installation of construction fencing, as well as implementation of the Worker Environmental Awareness Program described in Mitigation Measure BIO-2, invasive species control measures described in Mitigation Measure BIO-3, and biological monitoring described in Mitigation Measure BIO-6 would help avoid potential effects to La Graciosa thistle individuals, if present. Impacts to La Graciosa thistle would be less than significant with mitigation.

Monarch butterflies, a federal candidate species, were observed within the BSA during the field reconnaissance survey. All individuals were observed in flight and none were observed to be foraging or roosting within the BSA. Additionally, there is no suitable monarch overwintering habitat present within the BSA (Appendix B). There are several eucalyptus groves adjacent to the BSA that are known monarch overwintering sites; these sites are located approximately 300 feet southwest of Segment 2-10 and 700 feet east of Segment 2-2. The project is expected to occur at least partially within the California monarch overwintering period (September through March). While no direct effects to monarch butterflies are expected to occur, implementation of Mitigation Measures BIO-1 through BIO-4 would help avoid potential impacts to dispersing overwintering monarch butterflies, if present in the BSA during project implementation. Impacts to monarch butterflies would be less than significant with mitigation.

Potentially suitable habitat for California red-legged frog is present within the BSA at Oceano Lagoon and near Segments 2-1 and 2-2. There is low potential for California red-legged frog to occur within the BSA, and there is no suitable habitat for California red-legged frog within the project site, which consists of paved roads and ROW. No direct impacts to California red-legged frog are expected to occur as a result of the proposed project; however, implementation of Mitigation Measures BIO-1 through BIO-4 and BIO-6 would help avoid potential impacts to California red-legged habitat and dispersing frogs if present in the BSA during project implementation. Impacts to California red-legged frog would be less than significant with mitigation.

### **Non-federally Listed Special Status Species**

Based on the database searches, literature review, and results of the field reconnaissance survey of the BSA, 64 special status species (not federally listed) were identified to have some potential to occur in the project region. Of these species, 48 were eliminated from further consideration because suitable habitat for the species is not present within the BSA, and/or the range of the species is well outside the BSA. The remaining 16 species, including 11 special status plant species and five special status animal species, were either present or determined to have some potential to occur within the BSA. These species include:

- Sand mesa manzanita
- Blochman's leafy daisy
- Monterey cypress
- Mesa horkelia
- Kellogg's horkelia
- Southern curly-leaved monardella
- Crisp monardella
- San Luis Obispo monardella
- Black-flowered figwort
- Chaparral ragwort
- San Bernadino aster
- Northern California legless lizard
- Western pond turtle
- Coast horned lizard
- Townsend's big-eared bat
- American badger

Monterey cypress was observed within the BSA; however, all occurrences of Monterey cypress in the BSA were located within private residential property or along the public ROW as landscape trees. Because all occurrences of Monterey cypress are planted landscape trees and this species is not native to the project region, Monterey cypress was omitted from further evaluation.

Of the remaining 15 species, all except one have low potential to occur within the BSA due to a lack of suitable habitat. One species, northern California legless lizard, has moderate to potential to occur in the BSA (Appendix B). Potentially suitable habitat for northern California legless lizard is located in sandy, sparsely vegetated areas, which occur within one mile of the BSA. Additionally, northern California legless lizard has moderate potential to occur in silver dune lupine – mock heather scrub habitat with sandy soils, which is located within the BSA. The project is not expected to result in impacts to northern California legless lizards as the project would occur within developed areas and within the existing paved ROW; however, implementation of Mitigation Measures BIO-1 through BIO-4 and BIO-6 would help avoid potential impacts to dispersing northern California legless lizards if present in the BSA during project implementation. Impacts to northern California legless lizard would be less than significant with mitigation.

### **Other Protected Species**

The BSA contains suitable nesting habitat for nesting birds, which are protected under the California Fish and Game Code and the Migratory Bird Treaty Act. Potential nesting habitat for birds and raptors was observed throughout the BSA, with the most suitable locations being mature ornamental and landscape trees along roadways, the arroyo willow thickets along Segments 2-1 and 2-2, and the silver dune lupine – mock heather scrub habitats at the junction of Segments 1-5 and 1-11 and along Segment 3-4. No inactive or potentially active nests were observed within the BSA during the field reconnaissance survey (Appendix B). If nests are located within the BSA during project implementation, impacts to nesting birds would be potentially significant. Implementation of Mitigation Measure BIO-5, Pre-Construction Nesting Bird Surveys, would identify and implement a buffer around any active nests and would minimize impacts to a less than significant level. Impacts to nesting birds would be less than significant with mitigation.

### **Mitigation Measures**

#### *BIO-1 General Best Management Practices*

General requirements that shall be followed by construction personnel are listed below.

- Prior to project mobilization, limits of construction work adjacent to silver dune lupine – mock heather scrub habitats, including along Segments 1-5, 1-7, 1-11, and 3-4, shall be clearly delineated with orange construction fencing or similar highly visible material and maintained throughout the duration of construction. Silt fencing or similar exclusion fencing shall be installed along the limits of construction work adjacent to Oceano Lagoon and its associated riparian habitat, including along Segments 2-1 and 2-2.
- No native vegetation with a diameter at breast height (DBH) of more than 4 in. shall be removed or damaged without approval by an approved biologist. Vegetation trimming shall be minimized to the extent feasible.
- Staging and parking areas shall be limited to previously disturbed areas comprising ruderal vegetation, ornamental landscaping, and paved/graded areas, to the extent practicable.

- Materials and equipment (when not in use) shall be stored on impervious surfaces or plastic ground covers to prevent spills or leakage and shall be stored at least 50 feet from streams and wetland features, as feasible.
- Adequate spill prevention and response equipment shall be maintained on site and readily available to implement to minimize impacts to the aquatic environment.
- Construction materials and spoils shall be protected from stormwater runoff using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.
- Off-site tracking of loose construction materials and soil shall be implementing street sweeping, vacuuming, and rumble plates, as appropriate.
- All vehicles and equipment shall be in good working condition and free of leaks. When vehicles or equipment are stationary, mats or drip pans shall be placed below vehicles to contain fluid leaks. The contractor shall prevent oil, petroleum products, or any other pollutants from contaminating the soil or entering a watercourse (dry or otherwise).
- Project-related vehicles shall adhere to a speed limit of 15 miles per hour.
- If vehicle or equipment maintenance is necessary, it shall be performed in the designated staging areas.
- Fugitive dust from ground disturbance activities shall be minimized using water trucks and covering of soil stockpiles.
- Construction personnel shall adhere to all posted speed limits.
- All food related trash shall be disposed of in closed containers and removed from the project site each day during the construction period. Construction personnel shall not feed or otherwise attract wildlife to the construction area. At project completion, all project-generated debris, vehicles, building materials, and rubbish shall be removed from the project site.
- Excavated material from trenching along any potentially jurisdictional feature shall be side cast away to prevent sediment deposition within the feature.
- All open trenches shall be fenced and sloped to prevent entrapment of wildlife species.
- All hollow posts and pipes shall be capped, and metal fence stakes shall be plugged with bolts or other plugging materials to prevent wildlife entrapment and mortality.
- No pets shall be allowed on the project site.
- No firearms shall be allowed on the project site.
- Herbicides shall not be used on-site during construction.
- Work shall be restricted to daylight hours.
- While encounters with special status species are not likely or anticipated, any worker who inadvertently injures or kills a special status species or finds one dead, injured, or entrapped shall immediately report the incident to the construction foreman or biological monitor. The construction foreman or biological monitor shall immediately notify OCSD.
- Before starting or moving construction vehicles, especially after a few days of non-operation, operators shall inspect under all vehicles to avoid impacts to any wildlife that may have sought refuge under equipment. All large building materials and pieces with crevices where wildlife can potentially hide shall be inspected before moving. If wildlife is detected, a qualified biologist shall move wildlife out of harm's way or temporarily stop activities until the animal leaves the area. Threatened or endangered species can only be moved with authorization of the United States Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW), as applicable.

*BIO-2 Worker Environmental Awareness Training*

Prior to the initiation of the project, an approved biologist shall present a pre-project environmental education program for all personnel working at the site, which shall be focused on conditions and protocols necessary to avoid and minimize potential impacts to biological resources. Prior to initiation of all construction activities (including staging and mobilization), all personnel associated with project construction shall attend a Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in recognizing special status biological resources potentially occurring in the project site. This training will include information about the special status species with potential to occur in the project area. The specifics of this program shall include identification of special status species and habitats, a description of the regulatory status and general ecological characteristics of special status resources, and review of the limits of construction and measures required to avoid and minimize impacts to biological resources within the project site. A fact sheet conveying this information shall also be prepared for distribution to all contractors, their employees, and other personnel involved with construction of the project. All employees shall sign a form provided by the trainer documenting they have attended the WEAP and understand the information presented to them. The crew foreman shall be responsible for ensuring crew members adhere to the guidelines and restrictions designed to avoid impacts to special status species.

*BIO-3 Invasive Plant Species Control*

Invasive plant species, for the purpose of this document, shall include all species with a California Invasive Plant Council (Cal-IPC) rating of moderate or high. Construction personnel and equipment shall be free of invasive plant seeds, propagules, and any material which may contain them (e.g., soil) prior to entering the project site. All potentially contaminated equipment will be carefully cleaned prior to the initiation of project activities. Staging areas and access routes shall avoid weed infestations and infestations within the project site and shall be flagged and avoided to the maximum extent feasible. Only certified weed-free materials (e.g., gravel, straw, and fill) will be used for the project.

*BIO-4 Pre-construction Special Status Wildlife Surveys*

Within seven days of any planned ground disturbance, a qualified biologist shall conduct pre-construction surveys of the project site prior to the initiation of project activities occurring within or adjacent to habitat suitable for special status wildlife species, specifically Segments 1-5, 1-11, 2-1, 2-2, and 3-4. If non-listed status species are detected within the project site, the approved biologist shall relocate the species out of harm's way; state and/or federally listed species may not be handled unless authorized by the CDFW and/or USFWS, as applicable.

*BIO-5 Pre-construction Nesting Bird Surveys*

To avoid disturbance of nesting birds, including special status species and birds protected by the MBTA and CFGC Section 3503, project activities shall occur outside of the breeding season for migratory birds (generally February 1 through August 31), if feasible. If construction must occur during the breeding season, then a pre-construction nesting bird survey shall be conducted no more than seven days prior to the initiation of project activities. The nesting bird pre-construction survey shall be conducted on foot inside the project site and include a 500-foot buffer for raptors and a 300-foot buffer for all other species. The survey shall be conducted by a biologist familiar with the identification of avian species known to occur along the central coast of California. If nests are found, an avoidance buffer of up to 500 feet for raptors and up to 300 feet for non-raptors

(dependent upon the species, the proposed work activity, and existing disturbances associated with land use outside of the workspace) shall be determined and demarcated by the biologist with construction fencing, flagging, or other means to mark the boundary. Intrusion into the buffer may be conducted at the discretion of the biologist.

#### *BIO-6 Biological Monitoring*

An approved biologist shall be on-site during all project-related activities occurring adjacent to sensitive habitat and/or habitat suitable for special status species, specifically Segments 1-5, 1-11, 2-1, 2-2, and 3-4. The approved biologist shall ensure that all mitigation measures are adhered to and should provide recommendations to avoid impacts to biological resources. If non-listed special-status wildlife species are observed within the project site during project activities, the approved biologist shall relocate the species out of harm's way. State and/or federally listed species, including candidate species, may not be handled unless authorized by the CDFW and/or USFWS, as applicable. The biologist shall have the authority to temporarily halt or redirect work to avoid impacts to special status plant and wildlife species or other protected biological resources.

### **Significance after Mitigation**

Implementation of the mitigation measures above would reduce potential impacts to special status plant and animal species to a less than significant level. The general BMPs included in Mitigation Measure BIO-1 would reduce potential impacts to special status plant and animal species by isolating sensitive habitat from the project site with orange construction and/or silt fencing, minimizing vegetation removal and disturbance, minimizing the potential of adverse construction vehicle impacts, and establishing procedures for avoiding, monitoring, and reporting wildlife encounters. The Worker Environmental Awareness Training implemented as part of Mitigation measure BIO-2 would train workers to identify, prevent, and avoid potential impacts to special status species, and Mitigation Measure BIO-3 would reduce the potential for invasive plant species to be introduced to the project site, which would reduce impacts to special status plant species. Mitigation Measures BIO-4 and BIO-5 would involve surveys for wildlife and nesting birds, which would identify, avoid, and minimize potential impacts to wildlife and nesting birds that may be present in the project site. Mitigation Measure BIO-6 would involve biological monitoring, which would facilitate implementation of mitigation measures and would avoid or minimize impacts to special status species within the BSA. Impacts would be less than significant with mitigation incorporated.

### **LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

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

The CDFW California Natural Community List identifies sensitive natural communities throughout California. One sensitive natural community, silver dune lupine – mock heather scrub, is present within the BSA at the junction of Segments 1-5 and 1-11, and along Segment 3-4. Additionally, Oceano Lagoon, a sensitive habitat surrounded by forested/shrub wetland features, is located west of Segment 2-2 and north of Segment 2-1. Oceano Lagoon is considered an Environmentally Sensitive Habitat Area under the County's LCP (Appendix B).

No direct impacts to silver dune lupine – mock heather scrub, or Oceano Lagoon and its associated riparian habitat, would be expected to occur during construction, as these habitats are located

outside of the project site. However, indirect impacts could result during and following completion of the project through the introduction of invasive plant species, and this impact is potentially significant. Mitigation is required.

### **Mitigation Measures**

Refer to Mitigation Measures under checklist question (a) above for Mitigation Measures BIO-1, BIO-3, and BIO-6.

### **Significance after Mitigation**

Implementation of Mitigation Measures BIO-1 and BIO-3 would involve implementation of BMPs and invasive plant species control measures to avoid disturbance to sensitive natural communities and the spread of invasive plant species within these communities to the extent possible. Additionally, implementation of Mitigation Measure BIO-6, would require biological monitoring and implementation of avoidance and minimization measures to avoid impacts to sensitive natural communities to the extent possible. Impacts would be reduced to a less-than-significant level with implementation of these mitigation measures.

#### **LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

- 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?*

There are three unnamed freshwater forested shrub/wetland features associated with Oceano Lagoon, and these features may be subject to the jurisdictions of the United States Army Corps of Engineers, the State Water Resource Control Board, and/or CDFW (Appendix B). However, no direct impacts would be expected to occur to these features during construction, as these features are located outside of the project site. Indirect impacts could result during the project due to the staging of equipment and materials (e.g., stockpiled materials, construction equipment, and trash). Such materials may be stored within the BSA during construction, and runoff during storm events could result in erosion and water contamination, which would adversely impact water quality (e.g., increased turbidity, altered pH, decreased dissolved oxygen levels, etc.). Impacts to these wetland features would be potentially significant and mitigation would be required.

Implementation of Mitigation Measures BIO-1, BIO-2, and BIO-3 would reduce indirect impacts to these wetland features to a less-than-significant level. Mitigation Measure BIO-1 includes BMPs that would reduce the potential for erosion and contamination to occur by requiring spill and leakage prevention measures, and the WEAP training required by Mitigation Measure BIO-2 would aid workers in identifying and preventing potential sources of erosion and contamination. Additionally, Mitigation Measure BIO-3 would minimize the spread of invasive species which could have adverse impacts to wetland features. Implementation of these measures would reduce impacts to wetlands to a less-than-significant level.

If groundwater dewatering is required based on site conditions, groundwater would be discharged into either: 1) the storm drain, 2) the sanitary sewer, or 3) nearby existing recharge, retention, or detention basins. Groundwater in the BSA is presumed to be in direct connection with surrounding water bodies, including Oceano Lagoon, Meadow Creek Lagoon, Arroyo Grande Creek Lagoon, and the Pacific Ocean. If groundwater dewatering is required, the project would adhere to applicable rules and regulations related to discharge, including the NPDES Permit, as well as discharge

requirements established by the South San Luis Obispo County Sanitation District. If groundwater must be dewatered into storm drains discharging to local surface water bodies, dewatered groundwater would be temporarily stored in baker tanks and water quality would be tested prior to discharge, consistent with permit requirements. In complying with applicable rules and regulations related to discharge and the requirements of the project's NPDES permit and the discharge requirements established by the South San Luis Obispo County Sanitation District, impacts to surrounding water bodies as a result of groundwater dewatering would be avoided or minimized.

**LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

- 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?*

The BSA is not located within any mapped Essential Connectivity Areas. However, portions of the BSA along Segments 1-7, 1-8, 1-10, 3-4, and 3-5 are located within a Natural Landscape Area, as designated by the California Natural Resources Agency (Appendix B). The portions of the BSA located within the Natural Landscape Area are characterized by paved roads and/or gravel alleys, with aquatic and riparian habitats associated with Meadow and Arroyo Grande Creeks to the east and south, respectively, and coastal dune habitat associated with Pismo State Beach to the south. Because project construction will be limited to the public ROW within these areas and not result in new structures that could impede wildlife movement, no impacts to wildlife movement are expected to occur.

**NO IMPACT**

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

Oceano Lagoon and its associated arroyo willow riparian habitat are considered Environmentally Sensitive Habitat Areas under the adopted LCP for the County of San Luis Obispo. No direct impacts to these features are expected to occur during construction, as these habitats are located outside of the project site. As discussed previously, indirect impacts could result during and following completion of the project through the introduction of invasive plant species, which would be a potentially significant impact requiring mitigation. Potential impacts would be mitigated through the implementation of AMMs BIO-1, BIO-2, BIO-3, and BIO-6. These measures include but are not limited to implementation of BMPs to clearly delineate limits of construction work adjacent to Oceano Lagoon and its associated arroyo willow riparian habitat, implementation of the WEAP, biological monitoring during all project-related activities occurring adjacent to these habitats, and invasive species control measures.

Trees meeting the County protection standards were observed throughout the BSA (Appendix B). A large portion of the project site is located within developed public ROW, which are lined with protected trees, including coast live oaks and other tree species. Potential impacts to protected trees may include, but are not limited to, construction equipment compacting soil around the trees, disturbance of the canopy and root zone, and trenching in the root zone. Although no protected trees are proposed for removal as part of the project, construction activities could impact the health of street trees along the project alignment, which would conflict with the County's tree protection ordinance.

Potential impacts to protected trees would be avoided and/or mitigated through the implementation of Mitigation Measure BIO-7, which includes a Protected Tree Survey and associated fencing. With coordination with the County regarding the need for appropriate tree permits and implementation of this measure, the project would not conflict with the San Luis Obispo General Plan – Conservation and Open Space Element Policies *BR-3.1 Native Tree Protection* and *BR-3.5 Non-native Trees*, San Luis Obispo County General Plan – Local Coastal Program and Land Use Element *Policy 26 Riparian Vegetation* and *Policy 30 Protection of Native Vegetation*, San Luis Obispo County Oak Woodland Ordinance and San Luis Obispo County Code Title 22, Chapter 22.56. Impacts would be less than significant with mitigation.

## **Mitigation Measures**

### *BIO-7 Protected Tree Measures*

A Protected Tree Survey of all protected trees under the County definition that occur within 20 feet of proposed ground disturbance shall be conducted prior to project initiation. The Protected Tree Survey shall determine the number, location, and protection class of each tree in the project site and shall assess any potential project-related impacts. If protected trees are to be impacted and/or removed, a Tree Protection Plan and a Tree Replacement Plan (as applicable) shall be developed prior to the implementation of the project.

Fencing (at least 3 feet high, highly visible, staked to prevent collapse, and includes signage placed in 15-foot intervals identifying the protection area) shall be installed along the dripline of all protected trees that have a dripline that overlaps with the project site. No work shall be permitted within the fencing unless overseen by an approved arborist and approved by OCSD. All protective fencing shall be maintained throughout the duration of the project.

### **LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

- 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?*

The project site is not within the planning area of a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impact would occur.

### **NO IMPACT**



# 5 Cultural Resources

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

This section provides an analysis of the project’s impacts on cultural resources, including historical and archaeological resources as well as human remains. CEQA requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC] Section 21084.1). A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript a lead agency determines to be historically significant (CEQA Guidelines Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a-b]). PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

The impact analysis included here is organized based on the cultural resources thresholds included in CEQA Guidelines Appendix G: Environmental Checklist Form. Threshold A broadly refers to historical resources. To more clearly differentiate between archaeological and built environment resources, the analysis under Threshold A is limited to built environment resources. Archaeological resources, including those that may be considered historical resources pursuant to Section 15064.5 and those that may be considered unique archaeological resources pursuant to Section 21083.2, are considered under Threshold B.

## **Methodology and Results of Cultural Resources Assessment**

Rincon prepared a Cultural Resources Assessment to evaluate potential project impacts to historical and archaeological resources (Maldonado et al 2023). This analysis included a cultural resources records search of the California Historical Resources Information System at the Central Coast Information Center (CCIC), and a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search. Rincon also conducted a pedestrian survey of the project footprint for all locations as part of the study. The Cultural Resources Assessment contains sensitive and confidential information concerning archaeological sites, and is therefore not appended to this IS-MND. The following information and analysis is based on the Cultural Resources Assessment.

The CCIC records search was performed to identify previously conducted cultural resources studies, as well as previously recorded cultural resources within the project site and a 0.5-mile radius surrounding it. The CCIC is the official state repository for cultural resources records and reports for San Luis Obispo County. Rincon also reviewed the National Register of Historic Places, the California Register of Historical Resources, the California Historical Landmarks list, the Built Environment Resources Directory as well as its predecessor the California State Historic Property Data File, and the Archaeological Determination of Eligibility list. On November 3, 2023, the records search results were received from the CCIC. The records search identified 46 previously conducted cultural resource studies that partially overlap the project area, and two previously recorded prehistoric cultural resources within the project site.

On October 11, 2022, Rincon contacted the NAHC to request a search of the SLF, as well as an Assembly Bill (AB) 52 contact list of Native Americans culturally affiliated with the project area. Rincon prepared 10 AB 52 consultation letters for OCSD to send to known Native American contacts in the area to request information regarding cultural resources in the project vicinity that may be impacted by the project.

On November 17, 2022, Rincon conducted a field survey of the project site. Due to the lack of ground surface visibility from extensive development, road construction, and past utility installation, the field survey consisted of a mixture of pedestrian survey and windshield survey methodologies. A pedestrian survey was conducted in transects no more than 10 feet (3 meters) apart in areas of unpaved road shoulders and landscaped surfaces containing ground surface visibility. Exposed ground surfaces were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools), ecofacts (marine shell and bone), soil discoloration that might indicate the presence of a cultural midden, soil depressions, historical debris (e.g., metal, glass, ceramics), and features indicative of the former presence of structures or buildings (e.g., standing exterior walls, postholes, foundations). Ground disturbances such as drainages were also visually inspected. When deemed appropriate, the windshield survey was performed in areas of limited to no ground surface visibility.

Survey accuracy was maintained using a handheld Global Positioning System unit and a georeferenced map of the project site. Site characteristics and survey conditions were documented using field records and a digital camera.

- a. *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?*

The field survey and background research did not identify any built environment resources within the project site. As the project is limited to the direct project footprint and located entirely within paved ROWs, it does not have the potential to impact any built environment resources that may be considered a historical resource. Therefore, the project would not cause a substantial adverse change in the significance of a historical resource and no impact would occur.

**NO IMPACT**

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

As discussed above, the records search identified two previously recorded prehistoric cultural resources within the project site. Previous testing of these two resources has indicated considerable levels of disturbance due to grading, construction, and maintenance activities associated with the existing roadway and pipeline segments. Additionally, the project would involve installation of pipelines within previously disturbed areas and would not increase the extent to which soils and known cultural resources are already disturbed. However, the presence of these two resources in the project area indicates that the project area is highly sensitive for archaeological resources, and there is always a possibility that ground disturbance activities associated with the proposed project could result in substantial adverse change in the significance of an archaeological resource. Impacts would be potentially significant and Mitigation Measures CR-1 through CR-4 are required to reduce impacts to a less than significant level.

**Mitigation Measures**

*CR-1 Cultural Resources Sensitivity Training*

An archaeologist shall be retained to prepare and conduct a cultural resources sensitivity training (CRST) for all construction personnel prior to the commencement of any ground-disturbing activities for each project component located within the full-time monitoring and spot check monitoring areas. The training shall be conducted by an archaeologist under the direction of a qualified archaeologist who meets or exceeds the Secretary of Interior's Professional Qualification Standards for archaeology (National Park Service 1983). The initial CRST shall be given to all construction personnel, including but not limited to OCSD personnel, contractors, and subcontractors prior to their involvement in any ground-disturbing activities within the designated cultural resource sensitivity areas. Additional personnel who subsequently become involved in the project will also receive the training prior to their involvement in ground disturbing activities identified within the designated cultural resource sensitivity areas. This can be accomplished by additional in-person training sessions by the archaeologist or through the distribution of hardcopy or electronic training materials. All personnel that receive the CRST training shall sign a form that acknowledges receipt of the training. The CRST shall include a description of the types of cultural material that may be encountered, cultural sensitivity issues, the regulatory environment, and the proper protocol for treatment of the materials in the event of a find. The CRST will emphasize the requirement for

confidentiality and culturally appropriate treatment of any discovery of significance to consulting tribes and will discuss appropriate behaviors and responsive actions, consistent with tribal values. Each consulting tribe shall be provided with an opportunity to review and provide input during development of the CRST and shall be afforded an opportunity to speak during its presentation.

### *CR-2 Cultural Resources Monitoring and Discovery Plan*

A Cultural Resources Monitoring and Discovery Plan (CRMDP) shall be developed and implemented prior to the commencement of project-related ground-disturbing activities to address potential impacts to the portions of known cultural resources (e.g., P-40-000394/CA-SLO-394, P-40-000406/CA-SLO-406) located within the APE in the event of a find during construction. The CRMDP shall include figures depicting where monitoring will be required for the project, outline the monitoring methods used during ground disturbing activities, stop work protocols in the event of a discovery, detailed treatment methods and discovery protocols, and treatment methods for rapid recovery and data recovery of any prehistoric site constituents of known cultural resources (e.g., P-40-000394/CA-SLO-394, P-40-000406/CA-SLO-406), if necessary. The CRMDP shall also specify:

- Monitoring methods within resource boundaries, including stop-work authority and procedures
- Protocol for recovery of artifacts, features, and soil samples
- The type of equipment and methods, both mechanical and hand, that shall be used to conduct excavations
- Types and level of analysis to be conducted on site constituents
- Final disposition of any artifacts or samples

Native American tribes consulting under AB 52 or Section 106 of the NHPA for the proposed undertaking shall be given the opportunity to consult on and review the CRMDP prior to its implementation.

### *CR-3 Archaeological and Native American Monitoring and Reporting*

During initial ground disturbance for the project, an archaeologist working under the direction of the qualified project archaeologist who meets or exceeds the Secretary of Interior's Professional Qualification Standards for archaeology, and a locally-affiliated Native American representative shall monitor project-related ground-disturbing activities within the designated full-time monitoring areas and complete spot checks and review any accessible spoil piles and excavation areas within the designated spot check monitoring areas. Spot checks shall be conducted once weekly during ground disturbing construction activities within the designated areas. Native American monitoring duties shall alternate equally between the Coastal Band of the Chumash Nation, the Northern Chumash Tribal Council, the Salinan Tribe of Monterey, the Santa Ynez Band of Chumash Indians, and the yak tityu tityu yak tithini – Northern Chumash Tribe. If, during initial ground disturbance, the archaeologist in consultation with the qualified project archaeologist determines construction activities have little or no potential to impact cultural resources (e.g., excavations are within non-native soils or within a soil formation not expected to yield cultural resources deposits), the qualified archaeologist may recommend monitoring be reduced or eliminated. The archaeological and Native American monitors shall prepare daily monitoring logs for the project, to be appended to a monitoring report completed at the end of project construction by the project archaeologist to document the results of the monitoring effort. If cultural resources are identified during initial monitoring, work in the immediate vicinity shall halt until CRMDP protocols have been implemented and the resource has been evaluated for significance.

#### CR-4 *Unanticipated Discovery of Cultural Resources*

In the event that archaeological resources are unexpectedly encountered during ground-disturbing activities, work within 50 feet of the find shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the resource, if not already on site. If the resource is determined by the archaeologist in consultation with the qualified project archaeologist to be prehistoric, then a Native American representative shall also be contacted to participate in the evaluation of the resource, if not already on site. If the qualified archaeologist and/or Native American representative determines it to be appropriate, archaeological testing for NRHP/CRHR eligibility shall be completed using the methods outlined in the CRMDP. If the resource proves to be eligible for the NRHP or CRHR and significant impacts to the resource cannot be avoided via project redesign, a qualified archaeologist shall prepare a data recovery plan tailored to the physical nature and characteristics of the resource pursuant to the requirements of CEQA Guidelines Section 15126.4(b)(3)(C). The data recovery plan shall identify excavation methods, measurable objectives, and data thresholds to reduce any significant impacts to cultural resources related to the resource. Pursuant to the data recovery plan, the qualified archaeologist and Native American representative, as appropriate, shall recover and document the scientifically consequential information that justifies the resource's significance. OCS D shall review and approve the treatment plan and archaeological testing as appropriate, and the resulting documentation shall be submitted to CCIC pursuant to CEQA Guidelines Section 15126.4(b)(3)(C).

#### **Significance After Mitigation**

Implementation of these mitigation measures would avoid and minimize potential impacts to archaeological resources to the extent feasible. Mitigation Measure CR-1 would require construction personnel to identify archaeological resources and implement the appropriate protocol for treatment of any resources. Mitigation Measures CR-2 and CR-3 would require reporting and monitoring measures, and Mitigation Measure CR-4 outlines the appropriate protocol for treatment of resources in the event that archaeological resources are encountered. Implementation of Mitigation Measures CR-1 through CR-4 would reduce potential impacts to archeological resources to a less-than-significant level.

#### **LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

- c. *Would the project disturb any human remains, including those interred outside of formal cemeteries?*

The discovery of human remains is always a possibility during ground disturbing activities. If human remains are found, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be of Native American origin, the Coroner will notify the NAHC, which will determine and notify a most likely descendant (MLD). The MLD has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the MLD does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance. With adherence to existing regulations, impacts to human remains would be less than significant.

#### **LESS-THAN-SIGNIFICANT IMPACT**

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## 6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in a 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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>

California is one of the lowest per capita energy users in the United States, ranked 48<sup>th</sup> in the nation, due to its energy efficiency programs and mild climate (U.S. Energy Information Administration [EIA] 2022a). California consumed 277,764 gigawatt-hours (GWh) of electricity and 30,664,951 million cubic feet of natural gas in 2021 (California Energy Commission [CEC] 2022; EIA 2022b). In addition, Californians consume approximately 11.5 billion gallons of motor vehicle fuels per year in 2020 (Federal Highway Administration 2021). The single largest end-use sector for energy consumption in California is transportation (34.0 percent), followed by industry (24.6 percent), residential (21.8 percent), and commercial (19.6 percent) (EIA 2022a).

Most of California’s electricity is generated in-state with approximately 43 percent imported from the Northwest and Southwest in 2021. In addition, approximately 33.6 percent of California’s electricity supply comes from renewable energy sources, such as wind, solar photovoltaic, geothermal, and biomass (CEC 2022). To reduce statewide vehicle emissions, California requires that all motorists use California Reformulated Gasoline, which is sourced almost exclusively from in-state refineries. Gasoline is the most used transportation fuel in California with 13.8 billion gallons sold in 2021 and is used by light-duty cars, pickup trucks, and sport utility vehicles (California Department of Tax and Fee Administration 2022). Diesel is the second most used fuel in California with 3.1 billion gallons sold in 2021 and is used primarily by heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles (California Department of Tax and Fee Administration 2022). Both gasoline and diesel are primarily petroleum-based, and their consumption releases greenhouse gas (GHG) emissions, including CO<sub>2</sub> and NO<sub>x</sub>. The transportation sector is the single largest source of GHG emissions in California, accounting for 38 percent of all inventoried emissions in 2020 (CARB 2022a).

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

Energy use during project construction would be primarily in the form of fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators. Temporary grid power

may also be provided to construction trailers or electric construction equipment. Table 6 summarizes the anticipated energy consumption from construction equipment and vehicles, including construction worker trips to and from the project site. As shown therein, project construction would require approximately 3,166 gallons of gasoline fuel and approximately 35,557 gallons of diesel fuel.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. Furthermore, in the interest of cost efficiency, construction contractors would not utilize fuel in a manner that is wasteful or unnecessary. Therefore, project construction would not result in a potential impact due to wasteful, inefficient, or unnecessary consumption of energy resources, and no construction-related energy impact would occur.

**Table 6 Energy Use during Project Construction**

Source	Fuel Consumption (Gallons)	
	Gasoline	Diesel
Construction Equipment & Hauling Trips	–	35,557
Construction Worker Vehicle Trips	3,166	–

See Appendix A for CalEEMod outputs, and Appendix C for energy calculation sheets.

During operation, the proposed project would require maintenance, such as leaks, service calls, main breaks, and line flushing. Implementation of the pipeline improvements would reduce required maintenance activities and increase the longevity of the facilities. Maintenance activities would occur annually and on an as-needed basis and would require approximately one vehicle trip by maintenance staff per year. A reduction in reactive maintenance would also allow for the routine exercising of equipment and the replacement of old meters to more accurately track and bill customer water use. Therefore, project operation would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy. No impact would occur.

**NO IMPACT**

*b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

OCSO does not have any specific renewable energy or energy efficiency plans with which the project could comply. The County of San Luis Obispo adopted its EnergyWise Plan in 2011, which intends to facilitate the goals of the County’s General Plan Conservation and Open Space Element and reduce local greenhouse gas emissions. Chapter 5 of the EnergyWise Plan outlines goals for energy efficiency, including improved energy efficiency in public utilities. Implementation of the project would improve efficiency of the OCSO system and would reduce the number of operations and maintenance trips needed, which would reduce operational fuel consumption; therefore, the project would be consistent with the County’s EnergyWise Plan. In addition, no state plans for renewable energy or energy efficiency would apply to the project. Therefore, no impact would occur.

**NO IMPACT**



# 7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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Would the project:

a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input 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 type="checkbox"/>	<input checked="" 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 geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?*

The project site is located in a seismically active area of California; however, the project site is not located in an Alquist-Priolo Fault Zone. Several known faults, including the Los Osos Fault (approximately 19 miles northwest) and the San Andreas Fault (approximately 40 miles east), and other fault traces exist in the project region (DOC 2019). However, these faults do not cross the project site and are not considered “active” for the purposes of the Alquist-Priolo Act because they have not ruptured in the past 11,000 years (DOC 2019). Therefore, the proposed project would not directly or indirectly cause potential adverse effects related to rupture of a known earthquake fault, and no impact would occur.

**NO IMPACT**

- a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?*

The project site is located in a seismically active region, and could be subject to seismic ground shaking during an earthquake along the Los Osos Fault, San Andreas Fault, or other active faults in the region. The project would consist of improvements to several waterline segments in the OCSD service area. A large seismic event, such as a seismic shaking or ground failure, could result in breakage of waterlines and/or underground leakage from the pipeline. Design and construction of the proposed project would consider the seismic environment and would comply with applicable seismic design standards. A large seismic event, such as a fault rupture, seismic shaking, or ground failure, could result in breakage of the proposed pipeline, failure of joints, and/or underground leakage from the pipeline. In the event an earthquake compromises the pipeline during operation, OCSD would temporarily cease operations and conduct emergency repairs as soon as practicable.

Existing OCSD facilities are subject to the same risk; therefore, there would be no change in the potential for OCSD facilities to directly or indirectly cause substantial adverse effects involving strong seismic ground shaking as compared to existing conditions.

Therefore, while the project is located within a seismically active area and would place new infrastructure in an area that could be affected by seismic activity, the project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault or strong seismic ground shaking. Impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

- a.3. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?*
- a.4. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?*
- 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?*

Liquefaction occurs when strong, cyclic motions during an earthquake cause water-saturated soils to lose their cohesion and take on a liquid state. Liquefied soils are unstable and can subject overlying structures to substantial damage.

Although the project site is located in a seismically active region, the project site is not located in a liquefaction zone or landslide hazard zone (DOC 2020; California Geological Survey 2020). The project would not include habitable structures and would therefore not expose people to loss, injury, or death related to liquefaction, landslides, lateral spreading, subsidence, or collapse. Additionally, implementation of the project would not exacerbate the existing risk of earthquake-induced liquefaction, landslides, or seismic ground failure in the immediate vicinity because the project would not directly result in a seismic event or destabilize soils prone to landslide. In the event an earthquake compromised any project component due to ground failure during operation, OCSD would temporarily shut-off the waterline and conduct emergency repairs as soon as possible.

Therefore, because the project site is not located in an earthquake-induced landslide or liquefaction zone and the project would not introduce new infrastructure to the site that would exacerbate ground failure hazards, the proposed project would not directly or indirectly cause potential adverse effects involving earthquake-induced landslides, liquefaction, and ground failure. Impacts would be less than significant.

#### **LESS-THAN-SIGNIFICANT IMPACT**

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

Soil erosion or the loss of topsoil may occur when soils are disturbed but not secured or restored, such that wind or rain events may mobilize disturbed soils, resulting in their transport off the project site. Construction of the proposed pipeline segments would require trenching within existing paved roadways and landscaped areas, which have been previously disturbed in conjunction with construction of roadways and existing OCSD pipelines. No significant erosion or loss of topsoil would occur from pipeline construction and operation because the project would repave excavated roadways and restore disturbed landscaped areas upon completion of pipeline construction. The project would also adhere to County of San Luis Obispo Public Improvement Standards (listed under “Best Management Practices” in the *Project Description*), which include sediment and erosion control BMPs such as but not limited to pollutant source control; protection of stockpiles, slopes, and disturbed areas; and perimeter containment measures which would avoid and minimize soil erosion. Further, construction contractors would be required to comply with San Luis Obispo County’s NPDES Construction General Permit, which would require preparation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP is intended to minimize the amount of sediment and other pollutants associated with construction sites which is discharged in stormwater runoff. The SWPPP would include best management practices for erosion control, such as but not limited to preventing runoff from unprotected slopes, keeping disturbed areas to a minimum, and installing

check berms and desilting basins during construction activities, as necessary. The erosion control BMPs identified in the *Project Description* and implementation of Mitigation Measure BIO-1 would further reduce potential stormwater runoff impacts. With adherence to the contractor specifications, required SWPPP, and erosion control BMPs, potential adverse impacts associated with erosion and loss of topsoil would be less than significant.

**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?*

Expansive soils are those soils which can undergo substantial changes in volume (i.e., shrink-or-swell potential), due to variations in moisture content. Project alignments would be constructed primarily within roadways with existing road bases, thus unstable or expansive soils underneath the project alignments have already been replaced with road base. During construction, trench spoils would be temporarily stockpiled within the construction staging and storage area, then used to backfill the trench after pipeline placement; backfilling would be conducted to meet proper compaction and shear strength requirements. Further, the project would not include habitable structures and would therefore not create substantial direct or indirect risks to life or property beyond existing conditions.

The project would not compromise soil stability and there would be no impact involving expansive soils.

**NO 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?*

The project would not involve the use of septic tanks or alternative wastewater disposal systems. No impact would occur.

**NO IMPACT**

- f. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

Rincon evaluated the paleontological sensitivity of the geologic units that underlie the project to assess the projects potential for significant impacts to scientifically important paleontological resources. The analysis was based on a review of existing information in the scientific literature regarding known fossils within geologic units mapped beneath the project and the Society of Vertebrate Paleontology (SVP) system for assessing paleontological sensitivity (SVP 2010).

Sedimentary rock units can be assigned a high, low, undetermined, or no potential for containing scientifically significant nonrenewable paleontological resources. Following the literature review, a paleontological sensitivity classification was assigned to each geologic unit mapped within the project area. This criterion is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units.

The geology of the region surrounding the project was mapped by Wieggers (2021), who identified three geologic units underlying the project: young eolian deposits, young alluvial deposits, and old eolian deposits.

Young eolian deposits underlie segments 1-7, 1-8, 1-10, 3-4, 3-5, and 3-7, and consist of white to brown, well-sorted, wind-blown sand dune deposits that are Holocene in age (Wieggers 2021). Young eolian deposits are likely too young (i.e., less than 5,000 years old) to preserve paleontological resources (SVP 2010). Therefore, young eolian deposits have low paleontological sensitivity.

Young alluvial deposits underlie all of segments 2-1 and 2-2, and parts of segments 1-4, 1-5, 1-11, and 3-8. Young alluvial deposits consist of unconsolidated clay, sand, and silt, deposited in floodplains and valley floors, and are Holocene in age (Wieggers 2021). Young alluvial deposits are likely too young (i.e., less than 5,000 years old) to preserve paleontological resources (SVP 2010). Therefore, young alluvial deposits have low paleontological sensitivity.

Old eolian deposits underlie all of segments 1-2, 1-3, 2-3, 2-4, 2-5, 2-6, 2-7, 2-8, 2-9, 2-10, 3-1, 3-2, 3-3, 3-6, 3-9, 3-10, and 3-11, and parts of segments 1-4, 1-5, 1-11, and 3-8. Old eolian deposits consists of moderately consolidated sand dune deposits that may be capped by moderately developed soils and are late to middle Pleistocene in age (Wieggers 2021). Coastal dune deposits very rarely preserve fossils in California (Jefferson 2010; Paleobiology Database 2022; University of California Museum of Paleontology 2022). Therefore, old eolian deposits have low paleontological sensitivity.

Excavations for this project are anticipated to typically reach 5 feet below the surface for open-cut trenching and slightly deeper for trenchless (i.e., jack-and-bore) pipe installation. These excavations are only anticipated to impact sediments with low paleontological sensitivity. Therefore, this project is anticipated to have a less-than-significant impact on paleontological resources.

**LESS-THAN-SIGNIFICANT IMPACT**

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# 8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
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"/>

## Overview of Climate Change and Greenhouse Gas Emissions

Climate change is the observed increase in the average temperature of the Earth’s atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. Climate change is the result of numerous, cumulative sources of greenhouse gas (GHG) emissions contributing to the “greenhouse effect,” a natural occurrence which takes place in Earth’s atmosphere and helps regulate the temperature of the planet. Most radiation from the sun hits Earth’s surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions. GHG emissions occur both naturally and as a result of human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO<sub>2</sub>), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

## Significance Thresholds

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

In March 2012, SLOAPCD adopted CEQA thresholds for GHG emissions to achieve goals outlined in the County’s EnergyWise Plan. Three thresholds were recommended to be used to evaluate the level of significance of GHG emissions impacts for residential and commercial projects, including (1) qualified GHG reduction strategies; (2) bright-line threshold; and (3) efficiency threshold.

Most recently, SLOAPCD's 2023 CEQA GHG Guidance and Threshold Recommendations was developed to provide an administrative update to the SLOAPCD Handbook's thresholds of significance for GHG emissions (SLOAPCD 2023). This guidance provides updated evidence-based bright-line and efficiency thresholds of significance through 2045, the last year specified in AB 1279 and CARB's 2022 Scoping Plan Update for California to achieve its net zero GHG target. According to the guidance, either threshold type can be used to determine consistency toward a state GHG reduction target. The SLOAPCD's bright-line thresholds were determined to be most appropriate for the purposes of this analysis.

SLOAPCD determined efficiency thresholds for 2020, 2030, and 2045 are consistent with emission reduction targets specified in AB 32, SB 32, and AB 1279, respectively. The bright-line thresholds for the years in between (2021 to 2029 and 2031 to 2044) were linearly interpolated (SLOAPCD 2023). For projects with an initial operational year of 2030 or earlier, if emissions are at or below an applicable threshold for that operational year, then the project is considered to be doing its fair share toward achieving the state's SB 32 GHG reduction target. Based on the proposed project's operational year of 2026, the applicable GHG efficiency threshold is 830 MT CO<sub>2</sub>e per year.

In addition, this analysis considers whether the project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Therefore, the proposed project is assessed for consistency with the County of San Luis Obispo Conservation and Open Space Element, City of Arroyo Grande Climate Action Plan, and 2022 Scoping Plan.

## **Methodology**

Calculations of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O emissions are provided to identify the magnitude of potential project effects. The analysis focuses on CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O because these make up 98 percent of all GHG emissions by volume and are the GHG emissions the project would emit in the largest quantities (IPCC 2014). Emissions of all GHGs are converted into their equivalent GWP in terms of CO<sub>2</sub> (i.e., CO<sub>2</sub>e). Minimal amounts of other GHGs (such as chlorofluorocarbons [CFCs]) would be emitted; however, these other GHG emissions would not substantially add to the total GHG emissions. GHG emissions associated with project construction and operation were estimated using CalEEMod, version 2020.4.0, with the assumptions described under Section 3, *Air Quality*, in addition to the following:

- The project's CalEEMod model uses CalEEMod default assumptions for area and mobile sources for the proposed project.
- It was assumed that all operational vehicle trips to the site would be gasoline vehicles and that approximately one maintenance trip by OCSD staff would occur per year for approximately eight miles.
- In accordance with SLOAPCD recommendation, GHG emissions from construction of the proposed project were amortized over a 25-year period and added to annual operational emissions to determine the project's total annual GHG emissions (SLOAPCD 2012).

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

Construction and operation of the project would generate GHG emissions. This analysis considers the combined impact of GHG emissions from both construction and operation.



## Construction Emissions

Project construction would generate GHG emissions from the operation of heavy equipment, motor vehicles, and worker trips to and from the site. As shown in Table 7, emissions from project construction would be approximately 354 MT of CO<sub>2</sub>e total over the entire construction period, or approximately 14 MT of CO<sub>2</sub>e per year when amortized over a 25-year period in accordance with SLOAPCD recommendations (SLOAPCD 2012).

**Table 7 Estimated Construction GHG Emissions**

<b>Emission Source</b>	<b>Project Emissions (MT of CO<sub>2</sub>e /year)</b>
2025	354
<b>Total Construction Emissions</b>	<b>354</b>
Total Amortized over 25 Years	14

MT = metric tons, CO<sub>2</sub>e = carbon dioxide equivalents  
See Appendix A for CalEEMod worksheets.

## Operational Emissions

Operation of the proposed project would generate GHG emissions associated with area sources and mobile sources. The pipeline itself would not generate new demand for electricity. Maintenance activities would occur annually along the length of the pipeline alignment. Table 8 combines the estimated construction and operational GHG emissions associated with development of the project. As shown therein, annual emissions from the proposed project would be approximately 14 MT of CO<sub>2</sub>e per year, which would not exceed SLOAPCD's 2026 bright-line threshold of 830 MT of CO<sub>2</sub>e per year. Impacts would be less than significant.

**Table 8 Combined Annual Emissions of Greenhouse Gases**

<b>Emission Source</b>	<b>Annual Emissions (CO<sub>2</sub>e in metric tons)</b>
<b>Construction<sup>1</sup></b>	<b>14</b>
<b>Operational</b>	<b>&lt;1</b>
Area	<1
Mobile	<1
<b>Total</b>	<b>14</b>
SLOAPCD Numeric Threshold	830
<b>Exceed Threshold</b>	<b>No</b>

MT CO<sub>2</sub>e = metric tons of carbon dioxide equivalent  
<sup>1</sup> Amortized construction related GHG emissions over 30 years  
Source: Appendix A CalEEMod worksheets.

## LESS-THAN-SIGNIFICANT IMPACT

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

Plans and policies have been adopted to reduce GHG emissions in the Southern California region, including the County of San Luis Obispo Conservation and Open Space Element, the City of Arroyo Grande Climate Action Plan, and the State's 2022 Scoping Plan. The following local policies apply to the proposed project:

- **County of San Luis Obispo Conservation and Open Space Element's Goal WR 1:** The County will have a reliable and secure regional water supply.
- **City of Arroyo Grande Climate Action Plan's Measure A-3: Water Management:** implement new policies and programs to limit community exposure to threats such as flooding, and support those that encourage water use conservation and efficiency.

While the proposed project would not specifically involve water efficiency, it would improve the reliability and resiliency of the local water supply system. Therefore, the project would be consistent with the County of San Luis Obispo Open Space and Conservation and the City of Arroyo Grande Climate Action Plan.

This analysis also evaluates the proposed project against the goals of the 2022 Scoping Plan (CARB 2022b). Approximately two percent of total energy usage in California is used for the conveyance, treatment, and distribution of water. One of the goals of the 2022 Scoping Plan is to support climate adaptation and biodiversity that includes protection of the state's water supply, water quality, and infrastructure to achieve carbon neutrality as soon as possible (CARB 2022b). The proposed project would upgrade and repair the existing out-of-date pipeline system at risk of breakage and leakage. Therefore, the proposed project would improve the reliability and resiliency of the local water distribution network. Thus, although the project would generate temporary construction and minimal operational emissions, the project would ultimately be consistent with the goals of CARB's 2022 Scoping Plan.

The proposed project would not be in conflict with any applicable plans, policies, or regulations to reduce GHG emissions. Therefore, impacts related to GHG emissions would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

# 9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
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Would the project:

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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Be located on a site that is included on a list of hazardous material 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. For a project located in 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 checked="" type="checkbox"/>	<input type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

Construction of the proposed project would temporarily increase the transport and use of hazardous materials in the project area through the operation of vehicles and equipment. Such substances include diesel fuel, oil, solvents, and other similar materials brought onto the construction site for use and storage during the construction period. These materials would be contained within vessels specifically engineered for safe storage and would not be transported, stored, or used in quantities which would pose a significant hazard to the public or construction workers themselves. Furthermore, project construction would require the excavation and transport of paving materials (e.g., asphalt, concrete, road bed fill materials) and soils which could possibly be contaminated by vehicle-related pollution (e.g., oil, gasoline, diesel, and other automotive chemicals). All such paving, road bed materials, and soils removed during construction would be transported and disposed of in accordance with applicable codes and regulations. Additionally, as discussed in Section 7, *Geology and Soils*, the project would adhere to the BMPs required by the SWPPP prepared for the project, which would minimize the risk of leaks and spills of hazardous construction materials. Implementation of these BMPs and compliance with applicable codes and regulations would minimize hazards such that no significant hazard to construction workers or the surrounding community would occur.

Operation of the proposed project would involve the conveyance of water and would not require the use, storage, or disposal of hazardous materials. Therefore, the proposed project would not create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials. Impacts would be less than significant.

#### **LESS-THAN-SIGNIFICANT IMPACT**

- 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?*

The use, transport, and storage of hazardous materials during construction of the project (e.g., diesel fuel, oil, solvents, and other similar materials) could introduce the potential for an accidental spill or release to occur. As discussed under item (a), operation and maintenance of the project would not involve the routine transport, use, or disposal of hazardous materials. Therefore, potential impacts are limited to the construction period.

Some pipeline segments are located adjacent to SR-1, which may be associated with aerially deposited lead in soil. In addition, according to a search of the State Water Resources Control Board (SWRCB) GeoTracker database, there are two hazardous materials sites located near CIP Segment 2-3. These include a former parking lot with soil petroleum contamination, south of the intersection of Ocean Street and SR-1, and a closed leaking underground storage tank site located near the intersection of Front Street and SR-1 (SWRCB 2023a; 2023b). Remediation for the former parking lot was completed in 2004 and remediation for the underground storage tank was completed in 2016.

#### **Construction Impacts**

Construction of the proposed project would temporarily increase the transport and use of hazardous materials along the project alignment through the operation of vehicles and equipment, consistent with other pipeline construction projects in the region. Such substances include diesel fuel, oil, solvents, and other similar materials brought onto the construction site for use and storage

during the construction period. These materials would be contained within vessels specifically engineered for safe storage and would not be transported, stored, or used in quantities which would pose a significant hazard to the public or construction workers. Furthermore, project construction would require the excavation and transport of paving materials and soils that could possibly be contaminated by vehicle-related pollution (e.g., oil, gasoline, diesel, and other automotive chemicals). All such paving and soils removed during construction would be transported and disposed of in accordance with applicable codes and regulations to minimize potential hazards to construction workers and the surrounding community.

If groundwater dewatering is required based on site conditions, groundwater would be discharged into either: 1) the storm drain, 2) the sanitary sewer, or 3) nearby existing recharge, retention, or detention basins. The project would adhere to applicable rules and regulations related to discharge, including the County of San Luis Obispo National Pollutant Discharge Elimination System (NPDES) Permit as well as discharge requirements established by the South San Luis Obispo County Sanitation District. The project would not discharge dewatered groundwater into storm drains leading to Arroyo Grande Creek or other local surface freshwater bodies if practicable. If must be dewatered into storm drains discharging to local surface water bodies, dewatered groundwater would be temporarily stored in baker tanks and water quality would be tested prior to discharge, consistent with permit requirements.

The presence of hazardous materials during project construction activities, including but not limited to ground-disturbing activities such as grading and excavation, could result in an accidental upset or release of hazardous materials if they are not properly stored and secured. Hazardous materials used during project construction would be disposed of off-site in accordance with all applicable laws and regulations. However, if accident conditions during project construction result in a release of hazardous materials into the environment, impacts would be potentially significant. In order to address this potential for an unanticipated spill or release to occur during project construction, Mitigation Measure HAZ-1 would be implemented to reduce or avoid potential impacts. This mitigation measure would require development of a Hazardous Materials Management and Spill Control Plan to address the proper use, handling, and storage of hazardous materials during project construction and establish a spill response plan. In addition, as discussed in Section 7, *Geology and Soils*, the SWPPP prepared for the project would include BMPs that would minimize the potential for hazardous materials release into the environment.

Ground disturbing activities during construction, including trenching of subsurface materials along the proposed pipeline alignment, could result in a potential safety hazard because contaminants, including those discussed above, could be spread via dust particulates. In addition to the mapped hazardous cleanup sites near CIP Segment 2-3, unanticipated contaminants may be present at other pipeline segment sites. Improper handling and disposal of contaminated soils could result in a health risk to construction workers. Therefore, impacts related to the release of hazardous materials due to reasonably foreseeable upset or accident conditions during project construction would be potentially significant. Mitigation Measure HAZ-2 would require preparation of a Contaminated Soil Contingency Plan with provisions for treatment and/or disposal of contaminated soils if encountered.

## **Operation Impacts**

Operation of the proposed project would not require the use, storage, or disposal of hazardous materials. The contents of the proposed pipeline would be similar to existing conditions. Therefore, the proposed project would not create a significant hazard to the public or the environment through

the routine transport, use, or disposal of hazardous materials. Impacts would be less than significant.

## **Mitigation Measures**

With implementation of the following mitigation measures, potential impacts related to hazardous materials would be reduced to a less-than-significant level.

### *HAZ-1 Hazardous Materials Management and Spill Control Plan*

Before construction begins, the construction contractor shall develop and implement a Hazardous Materials Management and Spill Control Plan (HMMSCP) that includes a project-specific contingency plan for hazardous materials and waste operations. The HMMSCP shall establish policies and procedures consistent with applicable codes and regulations, including but not limited to the California Building and Fire Codes, as well United States Department of Labor OSHA and California OSHA regulations. The HMMSCP shall articulate hazardous materials handling practices to prevent the accidental spill or release of hazardous materials, and articulate a spill response plan in the event a spill occurs.

### *HAZ-2 Contaminated Soil Contingency Plan*

OCSD or its contractor(s) shall develop and implement a Contaminated Soil Contingency Plan that outlines provisions for treatment and/or disposal of contaminated soils. The Contaminated Soil Contingency Plan shall include a requirement for a qualified environmental consultant to prepare and administer a Worker Environmental Awareness Program training prior to the initiation of project-related ground disturbing activities. This training will aid workers in recognizing potential soil contamination that may occur along the project alignments. The specifics of this program will include an overview of properties along the segments that have the potential for soil contamination, the anticipated types and indicators of soil contamination, potential health hazards, and processes for properly addressing soil contamination if it is encountered.

The Contaminated Soil Contingency Plan will also include a requirement for a qualified environmental consultant to monitor soil excavation and loading activities along those segments of the alignment where soil contamination is most likely to be encountered (e.g., any construction activities adjacent to the closed leaking underground storage tank site located near CIP Segment 2-3). If potential soil contamination is encountered, work in the area shall be halted and the qualified environmental consultant will assess the soil and evaluate whether contamination may be present. Depending on the nature and extent of the potential contamination, the qualified environmental consultant may determine that soil sampling is necessary to determine whether contamination is present at concentrations that would require special handling, transportation or disposal requirements.

The Contaminated Soil Contingency Plan shall also include processes for addressing unanticipated contaminated soil encountered during construction. At a minimum, a qualified environmental consultant will be retained on-call by OCSD, and if potential soil contamination is encountered, work will halt in the area and an assessment will be made by the on-call qualified environmental consultant to determine the nature and extent of the contamination and potential handling, transportation, and/or disposal requirements.

## Significance After Mitigation

Implementation of Mitigation Measures HAZ-1 and HAZ-2 would reduce impacts related to hazardous materials spills, contamination, and potentially hazardous materials encountered during project construction to less-than-significant levels.

### LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

Oceano Elementary School and Fairgrove Elementary school are located within 0.25 mile of project pipeline segments. As described under item (b), there is potential that an accidental spill or release of hazardous or potentially hazardous materials such as vehicle and equipment fuels could occur during project construction. However, the use of hazardous or potentially hazardous materials would be subject to several federal, state, and local regulations. Compliance with these laws and regulations would ensure that impacts related to hazardous emissions are less than significant. Additionally, implementation of Mitigation Measures HAZ-1 and HAZ-2 would reduce impacts related to hazardous materials spills, contamination, and potentially hazardous materials encountered during project construction to less-than-significant levels. The project would not introduce a new stationary source of hazardous emissions, and operation of the project would not require the handling of hazardous materials, substances, or waste. Therefore, the project would not result in a significant impact to workers, the public, and the environment. Impacts would be less than significant with mitigation incorporated.

### LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- d. *Would the project be located on a site that is included on a list of hazardous material 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?*

Government Code Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop an updated Cortese List. The California Department of Toxic Substance Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List (DTSC 2018). The analysis for this section included a review of the following resources on November 14, 2022 to provide hazardous material release information:

- SWRCB GeoTracker database (SWRCB 2022)
- Department of Toxic Substances Control (DTSC) EnviroStor database (DTSC 2022)

Based on a review of these databases, it was determined that the pipeline segments are not included on existing lists of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The SWRCB GeoTracker database lists two hazardous materials sites along SR-1 near project pipeline segments, including a former parking lot south of the intersection of Ocean Street and SR-1 and a former leaking underground storage tank near the intersection of Front Street and SR-1, near CIP Segment 2-3. However, both of these sites are listed as “completed – case closed.”

Nevertheless, hazardous materials may be present in the soils that underlie the project area and could be encountered during construction and excavation that could pose a threat to workers, the public, or the environment. Implementation of Mitigation Measure HAZ-1 would require a

Hazardous Materials Management and Spill Control Plan and Mitigation Measure HAZ-2 would require a Contaminated Soil Contingency Plan for proper disposal of contaminated soils. Therefore, this impact would be less than significant with implementation of mitigation measures.

**LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

- 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?*

Oceano County Airport is a public airport located one mile west of Oceano’s central business district and immediately south and east of some project pipeline segments. Several of the project pipeline segments (Segments 1-5, 1-7, 1-8, 1-10, 3-4, and 3-5 as shown in Table 1 in the *Project Description*) within the western portion of Oceano are within the 65 dBA, 75 dBA, and 85 dBA<sup>8</sup> single-event noise level contours of Airport Land Use Plan for Oceano County Airport (San Luis Obispo County Airport Land Use Commission 2007). The remaining project components with known locations would be located outside the 65 dBA single-event noise level contour.

Construction workers at the pipeline segments within the airport noise contours would be intermittently exposed to elevated noise levels during aircraft take-off and landing events, especially within the 75 and 85 dBA single-event noise level contours and on the Oceano County Airport property. However, as described in Section 4.13, *Noise*, construction noise would be the dominant source of noise exposure for construction workers. Furthermore, construction contractors would be required to comply with California Occupational Safety and Health Administration (Cal OSHA) regulations related to worker exposure to noise. Section 5096 of these regulations sets duration-based noise exposure limits for construction workers that require provision of personal protective equipment should exposure exceed the specified limits. These regulations would reduce construction worker exposure to high noise levels such that construction activities would not expose employees to excessive noise levels. Therefore, project construction would not expose workers to excessive noise levels. and construction-related impacts would be less than significant.

In operation, pipeline segments would require occasional maintenance activities, and workers performing maintenance would be exposed to elevated noise levels within the 65 dBA, 75 dBA, and 85 dBA single-event noise level contours of the Oceano County Airport. Maintenance activities may occasionally coincide with a take-off or landing event. Section 5096 of Cal OSHA regulations sets duration-based noise exposure limits for employees that require provision of personal protective equipment should exposure exceed the specified limits. These regulations would reduce employee exposure to high noise levels such that operational activities would not expose employees to excessive noise levels. Furthermore, workers completing outdoor operations and maintenance activities at pipeline segments would have the option of seeking a quieter noise environment, such as their vehicles, during aircraft take-off and landing events, if desired. Therefore, project operations would not expose people working in the project area to excessive noise levels, and operational impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

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<sup>8</sup> dBA refers to A-weighted noise decibels, a measurement of sound adjusted for human hearing.



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

The County of San Luis Obispo maintains an Emergency Operations Plan (EOP) that includes emergency preparedness guidance for emergency service providers, County staff, and elected officials. The EOP focuses on identifying life safety measures, restoring businesses and community services after the occurrence of a disaster, and implementing procedures for cost recovery efforts. In addition, the County maintains a Multi-Jurisdictional Hazard Mitigation Plan, which provides strategies to reduce or eliminate long-term risk to people and property from natural hazards and their effects within the county. These plans also recognize SR-1 as a regional evacuation route (County of San Luis Obispo 2016; 2019).

As described in the *Project Description*, the project would adhere to the County of San Luis Obispo Public Improvement Standards, which include traffic control BMPs. Construction signs and other necessary traffic control devices would be installed prior to the commencement of work. All private driveways and side streets would be kept open at all times, except when construction takes place immediately in front of the driveway or side street. At the conclusion of each workday, all paved traveled-way surfaces would be restored to an all-weather, traversable condition.

In addition, OCSO would be required to obtain encroachment permits from applicable jurisdictions (County of San Luis Obispo, City of Arroyo Grande, and Caltrans) for any construction activities within the public ROW. OCSO would be responsible for preparing and submitting traffic control plans to accompany encroachment permit applications. The proposed project would also be subject to encroachment permit conditions, which may include requirements such as construction signage, peak traffic hour avoidance, and post-construction pavement restoration. These traffic control plans and encroachment permit conditions are designed to protect the traveling public and would minimize impacts to emergency evacuation routes. Impacts would be less than significant.

Project operation and maintenance would not introduce new activities that could impede or interfere with emergency plans. Maintenance activities of underground facilities within the public right-of-way are not expected unless under emergency conditions. Therefore, impacts related to emergency response plans and emergency evacuation plans during project operation would be less than significant.

#### **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?*

Some pipeline segments are located in (e.g., Segments 2-1 and 2-2) or near (e.g., Segments 1-4, 1-7, 1-8, 1-10, 1-11, 3-4, and 3-5) State Responsibility Areas designated as Moderate Fire Hazard Severity Zones (California Department of Forestry and Fire Protection [CAL FIRE] 2007, 2009). The nearest Very High Fire Hazard Severity Zone is located approximately 2.25 miles northeast of the easternmost pipeline segment (CAL FIRE 2009).

Project construction would involve the use of heavy equipment and machinery along the project alignments, portions of which are near vegetated areas. However, the project would comply with regulations related to fire hazards and wildfire safety, including mandatory use of spark arrestors (PRC Section 4442), maintenance of fire suppression equipment during the highest fire danger period (PRC Section 4428), and adherence to standards for conducting construction activities on days when a burning permit is required (PRC Sections 4427 and 4431). Therefore, although portions of the project alignment are located within areas potentially susceptible to wildfire, the proposed

project would not increase fire risks on the project alignments or surrounding areas. Potential construction impacts associated with wildland fire would be less than significant.

Following the completion of project construction, operational activities would not pose a substantial risk of wildfire ignition. Furthermore, the project would address water system deficiencies and upgrade the water system to provide adequate fire flow, which would provide a beneficial impact related to fire protection services. No adverse operational impact would occur.

**LESS-THAN-SIGNIFICANT IMPACT**

# 10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
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 checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The federal Clean Water Act establishes the framework for regulating discharges to waters of the U.S. in order to protect their beneficial uses. The Porter-Cologne Water Quality Act (Division 7 of the California Water Code) regulates water quality within California and establishes the authority of the SWRCB and the nine Regional Water Quality Control Boards. The Regional and State Boards issue NPDES permits to regulate specific water discharges, including a Construction General Permit for projects that disturb more than one acre.

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

Excavation, grading, and construction activities associated with project construction would result in soil disturbance. As stormwater flows over a construction site, it can pick up sediment, debris, and chemicals, and transport them to receiving water bodies. The nearest receiving water bodies to project pipeline segments include Oceano Lagoon and several small ponds and reservoirs throughout Oceano and the city of Arroyo Grande.

The proposed project would require coverage under the Construction General Permit and development and implementation of a SWPPP. The SWPPP would minimize the amount of sediment and other pollutants associated with the construction site discharged in stormwater runoff. As such, the proposed project would be consistent with water quality standards and waste discharge requirements. As discussed in Section 7, *Geology and Soils* implementation of SWPPP BMPs would minimize or avoid potentially adverse impacts, including those associated with earthwork activities that could lead to water quality degradation. Therefore, project construction activities would not substantially degrade surface water quality. The erosion control BMPs identified in the *Project Description* and implementation of Mitigation Measure BIO-1 would further reduce potential stormwater runoff impacts.

During operation of the project, water would be treated in accordance with Title 22 of the California Code of Regulations standards before entering the water distribution system. Therefore, project operation would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. Operational impacts would be less than significant.

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

In September of 2014, the California Legislature enacted comprehensive legislation aimed at strengthening local control and management of groundwater basins throughout the state. Known as the Sustainable Groundwater Management Act (SGMA), the legislation provides a framework for sustainable management of groundwater supplies by local authorities, with a limited role for State intervention when necessary to protect the resource. OCSO sources some its water supply from the Santa Maria River Valley Groundwater Basin (Santa Maria Basin), which underlies the coastal portions of northern Santa Barbara County and southern San Luis Obispo County. The California Department of Water Resources designated the basin as a “high priority” basin. SGMA requires that high and medium priority basins comply with the SGMA, with certain exceptions for certain

adjudicated basins such as the Santa Maria Basin. Adjudication occurs when water users within a basin are in dispute over legal rights to water, and a court issues a ruling to determine the groundwater rights of that basin. Most of the Santa Maria Basin is adjudicated, including the portions that underlie the OCSD service area (County of San Luis Obispo 2018). Therefore, the Santa Maria Basin is not subject to SGMA, and no sustainable groundwater management plan applies. The project would not conflict with or obstruct implementation of a sustainable groundwater management plan.

Based on groundwater levels in the project area, pipeline construction activities are not anticipated to encounter groundwater. If groundwater dewatering is required based on site conditions, the project would adhere to applicable rules and regulations related to discharge. Dewatering during project construction would not substantially decrease groundwater supplies or degrade water quality. Construction of the proposed pipeline would not increase impervious surfaces along the pipeline alignment because ground surfaces would be restored to pre-project conditions. Therefore, the project would not substantially interfere with groundwater recharge occurring along the project alignment. Potential impacts would be less than significant.

The project would be located in the area of the Water Quality Control Plan for the Central Coastal Basin (Basin Plan). The Basin Plan is the Central Coast RWQCB's master water quality control planning document, and identifies beneficial uses for surface water and groundwater and establishes water quality objectives to attain those beneficial uses. The identified beneficial uses and the water quality objectives to maintain or achieve those uses are together known as water quality standards. Waterways within the project vicinity have many beneficial uses protected by the Basin Plan. A conflict with the Basin Plan would occur if the project would degrade the water quality of surface water or groundwater within the planning area such that the designated beneficial uses are no longer attainable.

As discussed under threshold (a), compliance with relevant water quality regulations and policies, including the County's NPDES Construction General Permit, would reduce the risk of water degradation from soil erosion and other pollutants related to project construction and operational activities. Therefore, the proposed project would not result in water quality impacts to nearby surface waters protected by the Basin Plan, would maintain the identified beneficial uses of nearby surface and groundwater, and would not conflict with the Basin Plan during construction or operation. Impacts would be less than significant.

Therefore, the project would not conflict with or obstruct implementation of a water quality control plan or a sustainable groundwater management plan. Impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

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

The proposed project would not alter the course of a stream or river and would not introduce new impervious surfaces that could result in substantial erosion, siltation, or flooding on or off the sites. Pipeline construction would not increase impervious surfaces along the project alignment because the pipelines would be installed under existing roadways and previously disturbed roadway shoulders, and ground surfaces would be restored to pre-project conditions. Therefore, the proposed pipeline segments would not alter the existing drainage pattern in the project area compared to existing conditions. As discussed under item (a), compliance with relevant water quality regulations and policies, including the County's NPDES Construction General Permit, would reduce the risk of water degradation from soil erosion and other pollutants related to project construction and operation. Impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

- d. *In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?*

As shown in Federal Emergency Management Agency (FEMA) floodplain maps, areas of Oceano west of SR-1 and alongside Arroyo Grande Creek are within a 0.2 percent or 1 percent annual chance flood hazard zone (FEMA 2017). Additionally, as shown in DOC tsunami hazard area maps, areas of Oceano west of SR-1 and southeast in the Cienega Valley are within a tsunami hazard zone (DOC 2021).

An extreme flood event could inundate the area where the project segments occur, but the underground pipelines would be unaffected. Furthermore, implementation of spill response BMPs from the project's SWPPP would provide a rapid clean-up of any accidentally released materials to prevent pollutant release in a subsequent storm or flooding event. Therefore, the project alignments would not risk release of pollutants due to inundation. Impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

# 11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
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"/>

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

The proposed waterline improvements would be located entirely below the ground surface and would not have the potential to physically divide an established community. No impact would occur.

**NO IMPACT**

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

All but two pipeline segments associated with the project are located within unincorporated San Luis Obispo County, with the remaining two pipeline segments located within the city of Arroyo Grande. Pursuant to California Government Code 53091, building and zoning ordinances of a county or city do not apply to the location or construction of facilities for the production, storage, or transmission of water, wastewater, or electrical energy by a local agency. In addition, the proposed pipeline improvements would be constructed entirely underground, primarily below existing roadway ROW, and would not change surface land uses along the project alignments.

The project would improve aging water distribution infrastructure. The project would be in furtherance of County of San Luis Obispo goals and policies, including the following goal from the San Luis Obispo Countywide Regional Compact:

- **Goal 1 – Strengthen Community Quality of Life.** We believe that our Region’s quality of life depends on four cornerstones to foster a stable and healthy economy for all: resilient infrastructure and resources, adequate housing supply, business opportunities, and educational pathways.

Therefore, the project would not conflict with any land use plan, policy, or regulation of an agency with jurisdiction over the project. No impact would occur.

**NO IMPACT**

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# 12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<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"/>

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?*

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?*

Mineral extraction in San Luis Obispo County primarily includes sand and gravel mining. Project pipeline segments are not located within an Extractive Resource Area or an Energy and Extractive Resource Area (County of San Luis Obispo 2010). Therefore, the project would not result in the loss of availability of a known mineral resource or a locally important mineral resource recovery site. Furthermore, the pipeline segments are not located within or adjacent to any identified oil fields, nor does the project site contain any active or previously plugged and abandoned wells (DOC 2022). No impact would occur.

**NO IMPACT**

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# 13 Noise

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

## Noise Overview

The unit of measurement used to describe a noise level is the decibel (dB). However, the human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, a method called “A weighting” is used to filter noise frequencies which are not audible to the human ear.

A-weighting approximates the frequency response of the average young ear when listening to most ordinary everyday sounds. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the “A-weighted” levels of those sounds. Therefore, the A-weighted noise scale is used for measurements and standards involving the human perception of noise. In this analysis, all noise levels are A-weighted, and “dBA” is understood to identify the A-weighted decibel.

Decibels are measured on a logarithmic scale which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. A 10 dB increase represents a 10-fold increase in sound intensity, a 20 dB change is a 100-fold difference, 30 dB is a 1,000-fold increase, etc. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease.

Human perception of noise has no simple correlation with acoustical energy. The perception of noise is not linear in terms of dBA or in terms of acoustical energy. Two equivalent noise sources combined do not sound twice as loud as one source. It is widely accepted that the average healthy

ear can barely perceive changes of 3 dBA, increase or decrease; a change of 5 dBA is readily perceptible; and an increase (decrease) of 10 dBA sounds twice (half) as loud (Caltrans 2013).

### *Descriptors*

The impact of noise is not a function of loudness alone. The time of day when noise occurs, and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. The noise descriptors used for this analysis are the one-hour equivalent noise level ( $L_{eq}$ ) and the community noise equivalent level (CNEL).

- The  $L_{eq}$  is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period. Typically,  $L_{eq}$  is equivalent to a one-hour period, even when measured for shorter durations as the noise level of a 10- to 30-minute period would be the same as the hour if the noise source is relatively steady.  $L_{max}$  is the highest Root Mean Squared (RMS) sound pressure level within the sampling period, and  $L_{min}$  is the lowest RMS sound pressure level within the measuring period.
- The CNEL is a 24-hour equivalent sound level with an additional 5 dBA penalty to noise occurring during evening hours, between 7:00 p.m. and 10:00 p.m., and an additional 10 dBA penalty to noise occurring during the night, between 10:00 p.m. and 7:00 a.m., to account for the added sensitivity of humans to noise during these hours (Caltrans 2020a). Quiet suburban areas typically have a CNEL in the range of 40 to 50 dBA, while areas near arterial streets are in the 50 to 70+ CNEL range.

### *Propagation*

Sound from a small, localized source (approximating a “point” source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of 6 dBA for each doubling of the distance. Traffic noise is not a single, stationary point source of sound. Over some time interval, the movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point. The drop-off rate for a line source is 3 dBA for each doubling of distance.

The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site (such as parking lots or smooth bodies of water) receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading of the source. A soft site (such as soft dirt, grass, or scattered bushes and trees) receives an additional ground attenuation value of 1.5 dBA per doubling of distance.

Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011).

## **Vibration Overview**

Vibration levels are usually expressed as single-number measure of vibration magnitude, in terms of velocity or acceleration, which describes the severity of the vibration without the frequency variable. The peak particle velocity (ppv) is defined as the maximum instantaneous positive or

negative peak of the vibration signal, usually measured in inches per second. Since it is related to the stresses experienced by buildings, ppv is often used in monitoring and controlling construction vibration. Although ppv is appropriate for evaluating the potential of building damage, it is not suitable for evaluating human response. It takes some time for the human body to respond to vibrations. In a sense, the human body responds to an average vibration amplitude (Federal Transit Administration [FTA] 2018). Because vibration waves are oscillatory, the net average of a vibration signal is zero. Thus, the root mean square (rms) amplitude is used to describe the “smoothed” vibration amplitude (FTA 2018). The rms of a signal is the square root of the average of the squared amplitude of the signal, usually measured in inches per second. The average is typically calculated over a one-second period. The rms amplitude is always less than the ppv and is always positive. Decibel notation is used to compress the range of numbers required to describe vibration. The abbreviation VdB is used in this analysis for vibration decibels to reduce the potential for confusion with sound decibels.

Continued vibration of building components can also take the form of an audible low-frequency rumbling noise, which is referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hertz), or when foundations or utilities, such as sewer and water pipes, connect the structure and the vibration source.

### **Sensitive Receivers**

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The County of San Luis Obispo’s and City of Arroyo Grande’s Noise Element identifies noise sensitive uses as residential development, schools, health care services, nursing and personal care, churches, public assembly and entertainment, libraries and museums, hotels and motels, bed and breakfast facilities, outdoor sports and recreation, and offices (County of San Luis Obispo 1992, City of Arroyo Grande 2001). The nearest sensitive receivers along the pipeline are existing single-family residences immediately adjacent to pipeline segments on several roadways, as well as Oceano Elementary School and Fairgrove Elementary School.

### **Significance Thresholds**

OCSD does not have a noise ordinance and does not maintain significance criteria for noise impacts. Pursuant to California Government Code 53091, building and zoning ordinances of a county or a city do not apply to the location or construction of facilities for the production, generation, storage, or transmission of water. Therefore, within OCSD's jurisdiction, nuisance noise is prohibited at OCSD's discretion. However, because OCSD does not maintain significance criteria for noise impacts, the following standards established by the County of San Luis Obispo and the City of Arroyo Grande Municipal Code (the contiguous municipalities proximate to the project site) and by Caltrans are used to inform the thresholds of significance used in this analysis.

#### *Noise*

Municipal Code Section 22.10.120 addresses construction noise within the County of San Luis Obispo, and Municipal Code Section 9.16.010 addresses construction noise within the City of Arroyo Grande. Noise sources associated with construction for both municipal codes are exempted from the noise standards within 7:00 a.m. or after 9:00 p.m. on any day except Saturday or Sunday, or before 8:00 a.m. or after 5:00 p.m. on Saturday or Sunday. The Municipal Codes do not include quantitative thresholds for construction impacts. Therefore, in accordance with CEQA Guidelines

Section 15064.7(c), the County and City have chosen to use thresholds of significance recommended by another public agency, the FTA. The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction in their *Transit and Noise Vibration Impact Assessment Manual* (FTA 2018). For residential, commercial, and industrial uses, the daytime noise threshold is 80 dBA  $L_{eq}$ , 85 dBA  $L_{eq}$ , and 90 dBA  $L_{eq}$  for an 8-hour period, respectively.

### Vibration

Vibration limits used in this analysis to determine a potential impact to local land uses are based on guidelines for vibration damage potential contained in Caltrans' (2020b) *Transportation and Construction Vibration Guidance Manual*, shown in in Table 9.

**Table 9 Caltrans Vibration Damage Potential Threshold Criteria**

Type of Situation	Transient Sources (in/sec PPV)	Continuous/Frequent Intermittent Sources (in/sec PPV)
Extremely fragile historic buildings, ruins, and ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic sites and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

in/sec = inches per second; PPV = peak particle velocity  
 Source: Caltrans 2020b

- 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?*

### Construction Noise

Temporary noise levels caused by construction activity would be a function of the noise generated by construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of noise-generating activities.

For construction noise assessment, construction equipment can be considered to operate in two modes: stationary and mobile. As a rule, stationary equipment operates in a single location for one or more days at a time, with either fixed-power operation (e.g., pumps, generators, and compressors) or variable-power operation (e.g., pile drivers, rock drills, and pavement breakers). Mobile equipment moves around the construction site with power applied in cyclic fashion, such as bulldozers, graders, and loaders (FTA 2018). Noise impacts from stationary equipment are assessed from the center of the equipment, while noise impacts from mobile construction equipment are assessed from the center of the equipment activity area (e.g., construction site).

Construction noise was estimated using the Federal Highway Administration's (FHWA) Roadway Construction Noise Model (RCNM, 2006). Typical construction projects have long-term noise averages that are lower than louder short-term noise events due to equipment moving from one point to another on the site, work breaks, and idle time. Pipeline construction activities would be

mobile and would be constantly moving in a linear path along the pipeline alignment. Pipeline construction activities would occur near sensitive receivers, such as residences adjacent to most pipeline segments. Construction equipment used for site preparation and excavation activities would travel throughout the work areas, which would be an average of 124 LF<sup>9</sup> by approximately 20 feet in width (five-foot-wide trench plus construction area buffer). Therefore, mobile equipment associated with pipeline construction activities would operate at an average distance of 22 feet from the property boundary of the nearest sensitive receiver.<sup>10</sup> Pipeline construction may involve the use of a backhoe, loader, and concrete saw. With these pieces of equipment operating concurrently, the hourly noise level at 50 feet from the pipeline construction area is calculated to be 84 dBA L<sub>eq</sub>. Therefore, at the nearest noise-sensitive receiver to the pipeline alignment, pipeline construction activities would generate maximum hourly noise levels up to 91 dBA L<sub>eq</sub>. Table 10 summarizes pipeline construction noise levels at the nearest noise-sensitive receiver. The FTA’s daytime construction noise limit is 80 dBA for residential uses; therefore, project construction noise levels would exceed construction noise thresholds.

**Table 10 Pipeline Construction Noise**

Location	dBA L <sub>eq</sub> (8-hour)
Reference Distance (50 feet)	84
Single-Family Residences Immediately Adjacent (22 feet)	91

Notes: dBA = A-weighted decibels; L<sub>eq</sub> = equivalent continuous sound level

Construction noise impacts at any one residence during pipeline construction would be temporary and short-term because construction would be continuously moving along the pipeline alignment at a rate of approximately 124 LF per day. In addition, construction activities would be restricted to daytime hours per Section 22.10.120 and Section 9.16.010 Section of the County of San Luis Obispo and City of Arroyo Grande Municipal Code between 7 a.m. and 9 p.m. The project’s construction activities would generally occur Monday through Friday between 7 a.m. and 3:30 p.m. However, because project construction levels would exceed the FTA daytime construction noise limit of 80 dBA for residential uses, impacts from construction noise would be potentially significant. Mitigation Measure NOI-1 would require implementation of construction noise reduction measures, including temporary sound barriers. With implementation of Mitigation Measure NOI-1, impacts would be less than significant.

**Operational Noise**

Proposed pipeline segments would be located underground and would not generate noise. Therefore, no operational noise impact would occur.

<sup>9</sup> The average pipeline installation rate for each projected phase = (All phases = 16,135 LF divide by 130 trenching and trenchless days, based on applicant construction schedule, = **124.12 LF per day**)

<sup>10</sup> The average distance is the center of pipeline construction between the ROW roads. The distance between the ROWs is approximately 44 feet; therefore, the average point of the construction is 22 feet from the nearest residence.

## **Off-Site Traffic Noise**

Project operation would require infrequent vehicle trips associated with routine inspection and maintenance, periodic testing, and emergency repairs. Such activities would require approximately one annual trip, which would be reduced compared to the number of existing operation and maintenance trips. Consequently, project maintenance trips would not result in an increase in roadway noise, and there would be no impact.

## **Mitigation Measures**

### *NOI-1 Construction Noise Reductions*

OCSO and the construction contractor shall reduce construction noise levels at the adjacent single-family residential uses to a noise level not to exceed the FTA's residential construction noise threshold of 80 dBA  $L_{eq}$  (8 hour). This shall be accomplished through the following required measures:

- Installation of temporary sound barriers/blankets of sufficient height to break the line of sight between construction equipment and residences within 22 feet of construction equipment. The temporary barriers/blankets shall have a minimum sound transmission loss of 21 and noise reduction coefficient of 0.75.
- At the construction area, provide a sign that includes a 24-hour telephone number for project information, and a procedure where a field engineer/construction manager respond to and investigate noise complaints and take corrective action if necessary, in a timely manner.
- If a noise complaint(s) is registered, the contractor shall retain a County-approved noise consultant to conduct noise measurements at the use(s) that registered the complaint. The noise measurements will be conducted for a minimum of one hour and will include one-minute intervals. The consultant shall prepare a letter report for code enforcement summarizing the measurements, calculation data used in determining impacts, and potential measures to reduce noise levels to the maximum extent feasible.

The following measures may also be used to reduce noise levels:

- The use of bells, whistles, alarms, and horns shall be restricted to safety warning purposes only.
- Noise-reducing enclosures shall be used around stationary noise-generating equipment (e.g., compressors and generators) or located as far from sensitive receptors, as feasible.

## **Significance After Mitigation**

With implementation of noise barriers/blankets and other measures as described in Mitigation Measure NOI-1, construction noise levels would be reduced by at least 15 dBA. Therefore, construction noise levels would reach up to approximately 76 dBA  $L_{eq}$  (8 hour) and would not exceed the FTA daytime construction noise threshold of 80 dBA  $L_{eq}$ . Therefore, impacts from pipeline construction would be less than significant with mitigation.

**LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**



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

Construction activities known to generate excessive groundborne vibration, such as pile driving, would not be conducted by the project. The greatest anticipated source of vibration during general project construction activities would be during jack and bore pipeline installation, which would occur at two pipeline segments, and general construction equipment (such as a vibratory roller) which may be used within 22 feet of the nearest residential structures. A vibratory roller would create approximately 0.210 in/sec PPV at a distance of 25 feet (Caltrans 2020b). This would equal a vibration level of approximately 0.268 in/sec PPV at a distance of 22 feet.<sup>11</sup> This vibration level would not exceed the structural damage impact threshold for older residential structures of 0.3 in/sec PPV. Therefore, temporary impacts associated with the roller (and other potential equipment) would be less than significant.

Project operation would not introduce any new vibration sources. No operational vibration impact would occur.

**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?*

As discussed in Section 8, *Hazards and Hazardous Materials*, the closest public or private airport to the project site is the Oceano County Airport, located immediately adjacent from the nearest pipeline segment, and approximately 1.75 miles southwest of the furthest pipeline segment. According to the Airport Land Use Plan for the Oceano County Airport, construction workers adjacent from Oceano County Airport could be exposed to a single event noise level of 85 dBA (County of San Luis Obispo 2007). These noise events from the airport are quick and last for a relatively short duration. The noise exposure is not substantial from these events, and would be similar to noise generated by construction equipment. Pipeline construction activity would be continuously moving along the pipeline alignment at a rate of approximately 124 LF per day. Therefore, project construction workers would be exposed to Oceano County Airport noise on a temporary and short-term basis. Impact would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

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<sup>11</sup>  $PPV_{Equipment} = PPV_{Ref} (25/D)^n$  (in/sec),  $PPV_{Ref}$  = reference PPV at 25 feet,  $D$  = distance, and  $n = 1.1$

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# 14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

- 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)?*

The proposed project would involve water pipeline improvements to address water system deficiencies and provide adequate fire flow. No direct growth would occur as a result of the project because it does not propose new homes, businesses, or other land uses which would generate population growth. No indirect population growth would occur as a result of the project because it would not remove an obstacle to growth; the project does not increase capacity to deliver water supply and thus would not accommodate unplanned population growth.

No impact related to population growth from the proposed waterline improvements would occur because the project would not directly or indirectly induce population growth.

**NO IMPACT**

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

The proposed waterline improvements would be constructed underground within the existing public ROW. The project does not propose demolition of existing housing. Therefore, the project would not displace substantial numbers of existing people or housing. No impact would occur.

**NO IMPACT**

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# 15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:				
1 Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2 Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3 Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4 Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5 Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?*

According to the Local Hazard Mitigation Plan for OCSD (2019), OCSD provides fire and emergency services to residents and businesses within its service area boundary through the Five Cities Fire Authority, which was formed in 2010 under a Joint Powers Agreement between the city of Arroyo Grande, the city of Grover Beach and OCSD. The Five Cities Fire Authority operates out of three fire stations, with Fire Station 3 located closest to all pipeline segments at 1655 Front Street.

As discussed in Section 14, *Population and Housing*, the project would not directly or indirectly contribute to population growth. Therefore, the project would not increase demand for fire protection services or result in the need for new or physically altered fire protection facilities. Furthermore, the project would address water system deficiencies and upgrade the water system to provide adequate fire flow, which would provide a beneficial impact related to fire protection capacity. No adverse impact would occur.

**NO IMPACT**

*a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?*

The San Luis Obispo County Sheriff's Office serves the community of Oceano from South Station, located at 1681 Front Street. The project would not directly or indirectly contribute to population growth. Therefore, the project would not increase demand for police protection services or result in the need for new or physically altered police protection facilities. No impact would occur.

**NO IMPACT**

*a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?*

The project site is served by the Lucia Mar Unified School District. The project would not directly or indirectly contribute to population growth, and the project does not contain any elements that would directly or indirectly increase school district enrollment or require new or physically altered schools. No impact would occur.

**NO IMPACT**

*a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?*

The project would not directly or indirectly contribute to population growth, and the project would not involve any elements that would increase demand for parks or other recreational facilities. No impact would occur.

**NO IMPACT**

*a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?*

The project would not directly or indirectly contribute to population growth, and the project would not involve any elements that would require expansion or physical alteration of public facilities. No impact would occur.

**NO IMPACT**

# 16 Recreation

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

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?*

As discussed in Section 14, *Population and Housing*, the project would not directly or indirectly induce population growth and would therefore not increase the use of existing neighborhood and regional parks or other recreational facilities. No impact would occur.

**NO IMPACT**

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?*

The project would not include or require the construction or expansion of recreational facilities. No impact would occur.

**NO IMPACT**

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# 17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
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 type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a. *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

Project construction would result in temporary transportation impacts. Construction staging would occur in roadways along the pipeline segments or at parking lots in the project vicinity, and lane closures would be necessary for construction staging and excavation. As a result, project construction would result in temporary disruption to vehicular, bicycle, and pedestrian circulation. The project construction contractor would be required to prepare traffic control plans pursuant to San Luis Obispo County Regional Transit Authority and Caltrans specifications. Roadways would be restored after project construction, and the project would not interfere with roadway facilities in operation.

Construction-related vehicle trips would include construction workers traveling to and from the project work zones and staging areas, haul trucks (including for import and export of excavated materials, as needed), and other trucks associated with equipment and material deliveries. Such trips would occur on area roadways. Because construction is a short-term activity and trips would account for a relatively small proportion of existing traffic on area roadways, construction-related traffic impacts would not be substantial. Roadways would be repaved and restored in accordance with all applicable County of San Luis Obispo and City of Arroyo Grande standards once construction is complete. Traffic control BMPs would further reduce temporary transportation impacts associated with project construction. Therefore, construction-related transportation impacts would be less than significant.

The proposed project would involve construction and operation of waterline segment improvements, which would not conflict with adopted policies, plans, or programs addressing the circulation system, including public transit, bicycle, or pedestrian facilities. The proposed pipeline

alignment would be placed underground along existing roadways and roadway shoulders. Project operation would involve routine maintenance trips; however implementation of pipeline segment improvements would reduce the number of maintenance trips needed compared to existing conditions. Therefore, the project would not result in increased vehicle trips which could conflict with transportation programs or policies. Given the minimal number of trips generated, operational transportation impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

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

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating transportation impacts. Specifically, the guidelines state VMT exceeding an applicable threshold of significance may indicate a significant impact. According to CEQA Guidelines Section 15064.3(b)(3), a lead agency may include a qualitative analysis of operational and construction traffic if existing models or methods are not available to estimate VMT for the particular project being considered. Such a qualitative analysis would evaluate factors such as the availability of transit and proximity to other destinations. OCSD has not adopted VMT thresholds.

A VMT calculation is typically conducted on a daily or annual basis for long-range planning purposes. As discussed under item (a) above, traffic on local roadways would be temporarily increased during project construction due to worker trips and the necessary transport of construction vehicles and equipment to the project sites. Increases in VMT from construction would be short-term, minimal, and temporary. In addition, after completion of the proposed project, routine operation and maintenance trips for the project would be less frequent compared to existing conditions due to pipeline segment improvements. Thus, operational VMT would decrease as compared to existing conditions. Therefore, the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), and no impact would occur.

**NO IMPACT**

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

The project would involve installation of waterline segments within existing roadways in the community of Oceano and the City of Arroyo Grande. The project would not involve reconfiguration of roadways or intersections that could result in a substantial increase in traffic hazards. No impact would occur.

**NO IMPACT**

- d. Would the project result in inadequate emergency access?*

Lane closures and other potential traffic impacts caused by construction activities in existing roadways would have the potential to impede emergency response to the project area, or to areas accessed via the roadway. As discussed in Section 9, *Hazards and Hazardous Materials*, and item (a) of this section, OCSD would be required to obtain encroachment permits from applicable jurisdictions (County of San Luis Obispo, City of Arroyo Grande, and Caltrans) for any construction activities within the public ROW. OCSD would be responsible for preparing and submitting traffic control plans to accompany encroachment permit applications. The proposed project would also be subject to encroachment permit conditions, which may include requirements such as construction

signage, peak traffic hour avoidance, and post-construction pavement restoration. These traffic control plans and encroachment permit conditions are designed to protect the traveling public and would minimize impacts to emergency evacuation routes. Impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

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# 18 Tribal Cultural Resources

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

## Tribal Cultural Resources Background

On July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted, expanding CEQA by defining a new resource category, “tribal cultural resources.” AB 52 states: “A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (PRC Section 21084.2). It further states the lead agency shall establish measures to avoid impacts altering the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and is:

1. Listed or eligible for listing in the CRHR or in a local register of historical resources as defined in PRC Section 5020.1(k), or

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

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified or adopted. Under AB 52, lead agencies are required to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those having requested notice of projects proposed in the jurisdiction of the lead agency.

OCSO distributed AB 52 consultation letters for the proposed project, including project information, map, and contact information, to 10 Native American contacts via email on January 21, 2023, and via certified mail on February 1, 2023. Contacts of the following Native American tribes were provided with an AB 52 consultation letter and a Section 106 consultation letter:

- Barbareño/Ventureño Band of Mission Indians (two contacts)
- Chumash Council of Bakersfield
- Coastal Band of the Chumash Nation (two contacts)
- Northern Chumash Tribal Council
- Salinan Tribe of Monterey and San Luis Obispo Counties
- San Luis Obispo County Chumash Council
- Santa Ynez Band of Chumash Indians
- yak tityu tityu yak tithini – Northern Chumash Tribe

Under AB 52, Native American tribes have 30 days from receipt of the letter to respond and request further project information and formal consultation. Therefore, the consultation request period under AB 52 closed on March 4, 2023.

### **Summary of AB 52 Consultation**

On February 2, 2023, Tribal Administrator Patti Dunton of the Salinan Tribe of Monterey and San Luis Obispo Counties responded to the emailed AB 52 consultation letter and stated the Tribe had knowledge of sensitive cultural resources in the area and recommended Native American monitoring by a member of their Tribe during project-related ground disturbing activities. On February 10, 2023, OCSO inquired if the Tribe could clarify the locations of the sensitive areas for cultural resources and asked if the Tribe would like to engage in further consultation. On February 24, 2023, Ms. Dunton sent an email requesting to continue consultation for the project as it moves forward and provided locational information for the sensitive cultural resource areas. OCSO made contact attempts on April 4 and April 21, 2023, to see if the Tribe would like to schedule a combined Section 106 and AB 52 consultation meeting. On May 19, 2023, Ms. Dunton stated the Tribe has reviewed the project and had concerns about cultural resources and human remains that may be impacted. Ms. Dunton recommended Native American monitoring by a member of their Tribe during project-related ground disturbing activities. On May 22, 2023, OCSO inquired if the Tribe would like to set up a combined Section 106 and AB 52 consultation meeting to discuss the Tribe’s concerns further or if the Tribe’s written comments are sufficient from her perspective. On May 24, 2023, Ms. Dunton stated via email that she would let OCSO know if the Tribe’s cultural resources

lead, Robert Piatti, would like to schedule a meeting. On June 30, 2023, Ms. Dunton indicated Mr. Piatti would be in touch to discuss the project. Further communication from Ms. Dunton or Mr. Piatti was not received. On August 18, 2023, a letter was sent to see if the Tribe's comments and concerns were addressed through prior communication with OCSD and requested a response by August 31, 2023. A response was not received, and AB 52 and Section 106 consultation with the Salinan Tribe of Monterey and San Luis Obispo Counties was concluded on August 31, 2023.

On March 1, 2023, Administrative Assistant Crystal Mendoza of the Santa Ynez Band of Chumash Indians requested consultation under AB 52 on behalf of the Tribe. On March 13, 2023, OCSD contacted the Tribe to schedule a consultation meeting. As the USDA delegated consultation authority to OCSD, the letter further inquired if a meeting under Section 106 was requested and offered to consolidate the meetings. On April 4, 2023, the Tribe responded and stated they would like to combine the Section 106 and AB 52 consultation meetings into one meeting. On April 14, 2023, a Section 106 and AB 52 consultation meeting was held between OCSD and Cultural Resources Archaeologist Dr. Wendy Teeter of the Santa Ynez Band of Chumash Indians. During the consultation meeting, Dr. Teeter expressed concern due to the presence of human remains identified adjacent to the project site during the records search conducted for the project. Dr. Teeter requested summaries of the resources and previous studies, as well as a copy of the Phase 1 Cultural Resources Assessment prepared for the project. During the consultation meeting, Dr. Teeter stated she would follow up with the Tribe's recommended mitigation measures. Following the meeting, the requested study and resource summaries were provided to the Tribe. On June 18, 2023, Dr. Teeter provided the Tribe's recommended mitigation measures via email, which included a cultural resources sensitivity training, avoidance and preservation methods, Native American monitoring by a member or their Tribe, and evaluation and treatment of potential discoveries. On October 19, 2023, OCSD sent the Tribe the draft mitigation measures for the project, summarized efforts OCSD made to include the Tribe's request into the measures, and requested a response by November 3, 2023. A response was not received, and Section 106 and AB 52 consultation with the Santa Ynez Band of Chumash Indians was concluded on November 3, 2023.

On March 7, 2023, Chairperson Mona Tucker of the yak tityu tityu yak tilhini – Northern Chumash Tribe responded via email and stated Oceano is her hometown, and the Tribe has extensive cultural resource knowledge of the area. Chairperson Tucker stated excavation within the moderate sensitivity areas previously identified for the project will affect the Tribe's resources extensively and requested AB 52 consultation for the project. On April 4, and April 21, 2023, Rincon contacted Chairperson Tucker via email, on behalf of OCSD, to schedule a consultation meeting. As the USDA delegated consultation authority to OCSD, the letter further inquired if a meeting under Section 106 was requested and offered to consolidate the meetings. On April 25, 2023, a combined Section 106 and AB 52 consultation meeting was held between OCSD and Chairperson Tucker. During the consultation meeting, Chairperson Tucker stated concern related to the potential for additional artifacts and human remains to be uncovered during project-related ground disturbing activities and recommended full-time archaeological and Native American monitoring in the area where human remains were previously identified. Further, Chairperson Tucker identified additional areas sensitive for cultural resources and recommended full-time monitoring for additional pipeline segments. Follow-up emails were sent to Chairperson Tucker on April 25, 2023, and June 2, 2023, to confirm the areas of concern discussed during the meeting were captured in the project figures. A response from Chairperson Tucker was not received. On October 19, 2023, OCSD sent a letter to the Tribe summarizing the consultation efforts to date and requested a response by November 3, 2023. A response was not received, and Section 106 and AB 52 consultation with the yak tityu tityu yak tilhini – Northern Chumash Tribe was concluded on November 3, 2023.

On April 21, 2023, Chairperson Violet Walker of the Northern Chumash Tribal Council requested consultation under Section 106 and AB 52. On May 1, 2023, a combined Section 106 and AB 52 consultation meeting was held between OCSD, Chairperson Walker, and tribal members Ernest Houston and Michael Khus-Zarate. During this meeting, Chairwoman Walker stated the entire area is sensitive for cultural resources, and recommended monitoring of all project-related ground disturbances. This recommendation included spot checking all areas of the pipeline alignments outside of the designated “high” and “medium” sensitivity areas, and full-time monitoring in the high sensitivity and moderate sensitivity areas initially identified for the project. Due to the presence of human remains identified during the records search, the Tribe recommended full-time monitoring by an archaeologist and Northern Chumash Tribal Council representative for work occurring in this area. Chairperson Walker further stated she was also aware of human remains previously identified near the area of another pipeline segment. The Tribe recommended monitoring by an archaeologist and the Northern Chumash Tribal Council representative for specific segments of the pipeline based on their proximity to sensitive areas, historical freshwater bodies, and rapid sediment accumulation which could conceal cultural materials. Chairperson Walker requested the written mitigation measures proposed for the project, a copy of the resource sensitivity map, site records for the two resources identified within the pipeline segments, and summaries of the resources and studies. OCSD provided the requested documents on May 2, 2023. On October 19, 2023, OCSD sent a letter to the Northern Chumash Tribal Council summarizing the results of consultation to date, tribal recommendations, and the efforts of OCSD to include the recommendations into the project’s mitigation measures. The Tribe responded on November 8, 2023, indicating they reviewed the mitigation measures and are in agreement. Therefore, Section 106 and AB 52 consultation with the Northern Chumash Tribal Council concluded on November 8, 2023.

On June 5, 2023, CRM Committee Chair Annette Ayala of the Barbareño/Ventureño Band of Mission Indians responded and stated she defers recommendations to the yak tityu tityu yak tiłhini – Northern Chumash Tribe.

On June 5, 2023, Chairperson Gabe Frausto of the Coastal Band of the Chumash Nation requested consultation under Section 106. On August 24, 2023, a consultation meeting was held between OCSD and the Coastal Band of the Chumash Nation during which Chairperson Frausto requested the results of the records search and recommended cultural resource monitoring, a cultural resources sensitivity training, reburial of encountered artifacts near the location of discovery, and equal tribal representation during monitoring. Chairperson Frausto was provided with the results of the records search and a project map with resource locations via a protected file transfer site on August 24, 2023. On October 19, 2023, OCSD provided a summary of consultation to date and the project’s draft mitigation measures for the tribe’s review. On October 23, 2023, Chairperson Frausto responded and stated the tribe is in agreement with the mitigation measures. Therefore, Section 106 consultation with the Coastal Band of the Chumash Nation was concluded on October 23, 2023.

No additional requests were received during the consultation period.



- a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?*
- b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?*

Based on the results of the records search, SLF, and AB 52 consultation with Native American tribes affiliated with the project area, the project area is sensitive for tribal cultural resources. Therefore, ground disturbing activities associated with the project could cause a substantial adverse change in the significance of a tribal cultural resource, if any are identified during project construction, and impacts would be potentially significant. Mitigation Measures CR-1 through CR-4, listed in Section 5, Cultural Resources, and Mitigation Measure TCR-1 detailed below were developed in consultation with the project's consulting tribes and would avoid and minimize potential impacts to tribal cultural resources to the extent feasible.

### **Mitigation Measures**

Refer to Section 5, *Cultural Resources*, for Mitigation Measures CR-1, CR-2, CR-3, and CR-4.

#### *TCR-1 Unanticipated Discovery of Tribal Cultural Resources*

In the event cultural resources of Native American origin are identified during construction, all ground disturbing activities within a 50-foot radius of the find shall be halted and redirected until an archaeological monitor/or qualified archaeologist, if not already on site, has evaluated the nature and significance of the find. OCSD shall consult with the qualified project archaeologist and initiate Native American consultation procedures with the project's consulting tribes. If OCSD, in consultation with the Native American consulting tribes, determines that the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with the Coastal Band of the Chumash Nation, the Northern Chumash Tribal Council, the Salinan Tribe of Monterey, the Santa Ynez Band of Chumash Indians, and the yak tityu tityu yak tiłhini – Northern Chumash Tribe. The mitigation plan may include avoidance of the resource, if avoidance of the resource is infeasible, the plan would outline the appropriate treatment of the resource in coordination with the archaeologist, if applicable, and Native American consulting tribes. The mitigation plan shall be reviewed and approved by OCSD within 30 days of discovery of the find(s). Work at the discovery location shall not resume until all necessary investigation and evaluation of the discovery under the requirements of CEQA have been satisfied.

### **Significance After Mitigation**

Implementation of Mitigation Measure TCR-1 outlines protocol that would be implemented in the event that tribal cultural resources are identified during construction activities and would require preparation of a mitigation plan for resources determined to be of Native American origin. Mitigation Measure TCR-1, in addition to Mitigation Measures CR-1 through CR-4, would reduce the potential impact to tribal cultural resources to less than significant.

### **LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED**

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# 19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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"/>

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?*

## Water

The proposed project itself would involve installation of waterline segment improvements, the environmental impacts of which are analyzed throughout this document. No additional environmental impacts associated with the construction or relocation of wastewater facilities would occur beyond those analyzed herein. No impact would occur.

## **Wastewater Treatment**

The project would not require permanent on-site personnel and does not include the installation of restroom facilities. Therefore, no wastewater would be generated, and the project would not result the construction or relocation of additional new or expanded wastewater facilities. No impact would occur.

## **Stormwater Drainage**

As discussed in Section 10, *Hydrology and Water Quality*, the project would have no effect on the amount of impervious surfaces within the project site as compared to existing conditions because the project would not introduce new impervious surfaces. Therefore, the proposed project would not alter the drainage pattern within the project area and would not increase stormwater flow such that new or expanded stormwater drainage systems would be necessary. No impact would occur.

## **Electricity and Natural Gas**

As discussed in Section 6, *Energy*, the project would not require additional use of electricity. The project would not require natural gas connections. Therefore, the project would not require or result in the relocation or construction of new or expanded electricity or natural gas facilities. No impact would occur.

## **Telecommunications**

The project would not involve components requiring telecommunications infrastructure and is not anticipated to involve the relocation of existing telecommunications facilities. Therefore, no impact would occur.

## **Summary**

In summary, the project would not 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. No impact would occur.

## **NO IMPACT**

- 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?*

The project consists of the construction and operation of pipeline segment improvements. Small quantities of water would be required during construction for dust suppression, which would be provided by OCSD. Water consumption associated with dust suppression would be temporary and minimal because only disturbed areas would need to be watered. As described in the *Project Description*, if temporary dewatering activities are required, groundwater would be discharged into either: 1) the storm drain, 2) the sanitary sewer, or 3) nearby existing recharge, retention, or detention basins. If groundwater must be dewatered into storm drains discharging to local surface water bodies, dewatered groundwater would be temporarily stored in baker tanks and water quality would be tested prior to discharge, consistent with permit requirements. The project would not include development of structures or infrastructure that would directly or indirectly increase the population of the community of Oceano, the City of Arroyo Grande, or San Luis Obispo County such that water demands would increase.

In operation, the proposed project would not alter the water supplies of OCSD or surrounding water suppliers. The project would include an emergency intertie between OCSD and the City of Arroyo Grande systems. The City of Arroyo Grande has a variety of water sources, including groundwater, local surface water, and stormwater captured for groundwater recharge, irrigation, and construction water (City of Arroyo Grande 2015). The proposed emergency intertie between OCSD and the City of Arroyo Grande systems along Segment 2-10 would not alter the water supply capacity of either system. Therefore, impacts to water supplies would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

- 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?*

As discussed under threshold (a), the project would not generate wastewater or otherwise contribute to an increase in wastewater treatment requirements. Therefore, the project would not directly or indirectly generate wastewater that would exceed the capacity of existing wastewater treatment facilities in the project area. No impact would occur.

**NO 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?*
- e. *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

Construction activities may temporarily generate solid waste, including soil spoils, pavement debris, or other construction waste, which would be disposed of in accordance with all applicable federal, State, and local statutes and regulations. While most soil is expected to be reused as backfill material within the project area, minimal remaining inert construction waste would be disposed of at existing construction waste landfills in the area. Due to the temporary nature of construction and minimal amount of construction waste anticipated to require disposal, the project would not generate quantities of solid waste that would account for a substantial percentage of the total daily regional permitted capacity available at landfills accepting such waste. The nearest landfill to the project area is the Cold Canyon Landfill, which receives solid waste from San Luis Obispo, Arroyo Grande, Oceano, and other cities and communities in the project region. Construction debris would likely be disposed of at this landfill; Cold Canyon Landfill has 13 million cubic yards of remaining capacity and is expected to operate through the year 2040 (CalRecycle 2019). Therefore, waste generated by demolition and construction activities would not exceed the available capacity at the landfills serving the project area that would accept debris generated by the project.

Construction activities would be required to comply with all applicable laws and regulations related to solid waste generation, collection, and disposal. The project would result in a short-term and temporary increase in solid waste generation during construction, but would not substantially affect standard solid waste operations of any landfill accepting waste. Recycling and reuse activities during construction would comply with the California Integrated Waste Management Act of 1989 (AB 939). Once operational, the project would include unmanned facilities and would not generate solid waste. Therefore, solid waste impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

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## 20 Wildfire

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

According to the Local Hazard Mitigation Plan for the Oceano Community Services District (2019), a wildland fire threat does not exist within the OCSD service boundary due to weather, topography, and lack of vegetation. Furthermore, the climate and foggy atmosphere within the city of Arroyo Grande typically help to maintain fuel moisture levels to a point that limits the potential for rapid fire spread (County of San Luis Obispo 2019). Nonetheless, the correct combination of weather, topography and fuel could create potential for a wildfire in the area. As such, CAL FIRE has designated some areas within the OCSD service area boundary and the city of Arroyo Grande as being at increased risk from wildfires (County of San Luis Obispo 2019; CAL FIRE 2007; CAL FIRE 2009).

Some project pipeline segments are located in (e.g., Segments 2-1 and 2-2) or near (e.g., Segments 1-4, 1-7, 1-8, 1-10, 1-11, 3-4, and 3-5) State Responsibility Areas designated as Moderate Fire Hazard Severity Zones (California Department of Forestry and Fire Protection [CAL FIRE] 2007, 2009). The nearest Very High Fire Hazard Severity Zone is located approximately 2.25 miles northeast of the

easternmost pipeline segment (CAL FIRE 2009). Therefore, the project site is considered to be near lands classified as Very High Fire Hazard Severity Zones for the purposes of this analysis.

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

The proposed project would not add residents or employees to the project site and does not include structures that would increase wildfire exposure or hazards. Lane closures and other potential traffic impacts caused by construction activities in existing roadways would have the potential to impede emergency response to the project area, or to areas accessed via the roadway. As discussed in Section 9, *Hazards and Hazardous Materials*, and item (a) of this section, OCSO would be required to obtain encroachment permits from applicable jurisdictions (County of San Luis Obispo, City of Arroyo Grande, and Caltrans) for any construction activities within the public ROW. OCSO would be responsible for preparing and submitting traffic control plans to accompany encroachment permit applications. The proposed project would also be subject to encroachment permit conditions, which may include requirements such as construction signage, peak traffic hour avoidance, and post-construction pavement restoration. These traffic control plans and encroachment permit conditions are designed to protect the traveling public and would minimize impacts to emergency evacuation routes. Impacts would be less than significant.

**LESS-THAN-SIGNIFICANT IMPACT**

- b. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

Project construction would involve the use of heavy equipment and machinery along the project alignments, portions of which are near vegetated areas. However, the project would comply with regulations related to fire hazards and wildfire safety, including mandatory use of spark arrestors (PRC Section 4442), maintenance of fire suppression equipment during the highest fire danger period (PRC Section 4428), and adherence to standards for conducting construction activities on days when a burning permit is required (PRC Sections 4427 and 4431). Therefore, although portions of the project alignment are located within areas potentially susceptible to wildfire, the proposed project would not increase fire risks on the project alignments or surrounding areas. Impacts would be less than significant.

Following the completion of project construction, operational activities would not pose a substantial risk of wildfire ignition. Furthermore, the project would address water system deficiencies and upgrade the water system to provide adequate fire flow, which would provide a beneficial impact related to fire protection services. No adverse operational impact would occur.

**LESS-THAN-SIGNIFICANT IMPACT**



- c. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*
- d. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

The project would not include fuel breaks, emergency water sources, power lines, or other aboveground utilities that would exacerbate fire risk or result in temporary or ongoing impacts to the environment, as the pipelines would be located entirely underground. Additionally, as discussed in Section 10, *Hydrology and Water Quality*, the proposed project would not alter existing drainage patterns or stormwater runoff rates or patterns, and would include the use of stormwater BMPs to avoid causing or contributing to increased runoff or drainage changes. Therefore, the project would not expose people or structures to flooding or landslides as a result of post-fire runoff, slope instability, or drainage changes. No impact would occur.

**NO IMPACT**

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# 21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Does the project:				
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 type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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?*

As discussed in Section 4, *Biological Resources*, the project could result in some potentially significant, local impacts to biological resources, which would be less than significant with mitigation. However, the project would not result in major, regional impacts such as substantially degrading the quality of the environment, substantially reducing the habitat of a fish or wildlife species, causing a fish or wildlife population to drop below self-sustaining levels, threatening to eliminate a plant or animal community, or substantially reducing the number or restrict the range of a rare or endangered plant or animal. As discussed in Section 5, *Cultural Resources*, the project has some potential to result in potentially significant, local impacts to known cultural resources, which

would be less than significant with mitigation. The project does not have the potential to eliminate important examples of the major periods of California history or prehistory. No impact would occur.

**NO IMPACT**

- 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)?*

As described in the discussion of environmental checklist Sections 1 through 20, with respect to all environmental issues, the proposed project would not result in significant and unmitigable impacts to the environment; all anticipated impacts associated with project construction and operation would be either less than significant or less than significant with mitigation incorporated. This is largely due to the fact that project construction activities would be temporary, and project operational activities would not significantly alter the environmental baseline condition.

Cumulative impacts could occur if the construction of other projects occurs at the same time as the proposed project and in the same geographic scope, such that the effects of similar impacts of multiple projects combine to create greater levels of impact than would occur at the project-level. For example, if the construction of other projects in the area occurs at the same time as project activities, combined air quality and noise impacts may be greater than at the project-level.

Five planned development projects are in the vicinity of the project site, which are summarized in Table 11. The exact implementation timing of these projects is not known at this time; therefore, it is conservatively assumed that construction of these planned projects could overlap with construction of the proposed project.

**Table 11 Cumulative Development Projects**

No.	Project Name	Project Location	Project Components	Status
1	Oceano Pier Avenue Specific Plan	Pier Avenue from SR-1 to Oceano Dunes State Vehicular Recreation Area	Vision and concepts for potential mixed-use development and revitalization of Pier Avenue following closure of Oceano Dunes State Vehicular Recreation Area	Specific Plan drafted by California Polytechnic State University students in 2019; not adopted by County
2	California Department of Parks and Recreation Pismo State beach and Oceano Dunes State Vehicular Recreation Area Public Works Draft Plan	Oceano Dunes State Vehicular Recreation Area	Plan to facilitate balance of vehicular use, and habitat/coastal conservation that would develop trails, camping facilities, day-use facilities and parking lots, and utility improvements	Draft Environmental Impact Report prepared in 2020; plan not adopted
3	Oceano Town Center Concept Plan	West of SR-1 in Oceano	Vision to develop mixed-use, residential, and commercial uses in area west of SR-1 near the existing Oceano County Airport with visitor facilities and regional open space	Specific Plan drafted by California Polytechnic State University students in 2019; not adopted by County

No.	Project Name	Project Location	Project Components	Status
4	Oceano Revitalization Plan	Along Front Street and Cienaga Street in southwest Oceano	Proposed roadway and pedestrian improvements, infill housing, and commercial uses in downtown Oceano	Plan adopted in August 2013; buildout to occur over 30 years
5	Oceano Campground Repaving	Oceano Campground – Pismo State Beach	Repaving and repairing asphalt parking lot at Oceano Campground	Construction design phase

Source: Oceano Advisory Council 2022

Project impacts are primarily temporary, localized effects that would occur during construction activities. Therefore, the potential for the project to contribute to cumulative impacts would be limited to the infrequent periods of project activities and the following issue areas:

- **Air Quality.** Because the South Central Coast Air Basin is designated as non-attainment for the ozone and PM<sub>10</sub> CAAQS, cumulative air quality impacts currently exist for these pollutants. As discussed in Section 3, *Air Quality*, project construction activities would not generate emissions of this air pollutant exceeding San Luis Obispo County Air Pollution Control District significance thresholds, which are intended to assess whether a project’s contribution to existing cumulative air quality impacts is considerable. Therefore, the project’s contribution to cumulative air quality impacts would not be cumulatively considerable.
- **Biological Resources.** Most cumulative impacts to biological resources occur when a disproportionate number of development projects occur at once and regionally impact a local population of a special status species, riparian habitat, sensitive natural communities, wetlands, or other locally protected biological resources. In this case, Project Nos. 1, 3, 4, and 5 would occur in primarily developed areas and Project No. 2 would occur in a primarily undeveloped area. Project No. 2 would include elements that have the potential to result in significant impacts to special status plant and wildlife species or sensitive natural communities. This project was analyzed in an Environmental Impact Report pursuant to CEQA in 2020; other projects would be required to undergo CEQA review to identify the extent of these biological resources impacts and to mitigate those impacts appropriately. Given the uncertainty in the extent of impacts associated with these projects, this analysis conservatively assumes a significant cumulative impact to biological resources would occur. Nevertheless, the proposed project would be required to implement Mitigation Measures BIO-1 through BIO-7 to reduce its impacts to biological resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact.
- **Cultural and Tribal Cultural Resources.** Cumulative development in the region would continue to disturb areas with the potential to contain cultural and tribal cultural resources. As mentioned above, the cumulative development projects have undergone or would be required to undergo CEQA review, which would determine the extent of potential cultural and tribal cultural resources impacts and mitigate those impacts appropriately. If these cumulative projects would result in impacts to known or unknown cultural or tribal cultural resources, impacts to such resources would be addressed on a case-by-case basis. Given the uncertainty in the extent of impacts associated with these projects, this analysis conservatively assumes a significant cumulative impact to cultural and tribal cultural resources would occur. Nevertheless, the proposed project would be required to implement Mitigation Measures CR-1 through CR-4 and TCR-1 to reduce its impacts to cultural and tribal cultural resources to a less-than-significant

level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact.

- **Greenhouse Gas Emissions.** GHG emissions and climate change are, by definition, cumulative impacts. As discussed in Section 8, *Greenhouse Gas Emissions*, the adverse environmental impacts of cumulative GHG emissions, including sea level rise, increased average temperatures, more drought years, and more large forest fires, are already occurring. As a result, cumulative impacts related to GHG emissions are significant. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. As discussed in Section 8, *Greenhouse Gas Emissions*, project emissions would be below the identified threshold of significance and would therefore not be cumulatively considerable.
- **Hazards and Hazardous Materials.** Similar to the proposed project, cumulative projects would be required to comply with regulations applicable to the use, disposal, and transportation of hazardous materials during construction activities, and compliance with applicable regulations would reduce potential cumulative impacts to less-than-significant levels. With respect to the use and accidental release of hazardous materials in the environment at construction, effects are generally limited to site-specific conditions. In addition, the proposed project would be required to implement Mitigation Measures HAZ-1 and HAZ-2 to reduce its impacts to biological resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact. Therefore, cumulative impacts related to accidental release of hazardous materials would be less than significant.
- **Noise.** Overlapping construction activities associated with cumulative development projects in conjunction with proposed project activities could result in cumulative noise impacts related to a temporary increase in ambient noise levels at the same noise-sensitive receivers located throughout the area, especially during construction activities. However, similar to the proposed project, cumulative development projects would be subject to compliance with the noise level limits established by applicable jurisdictions (County of San Luis Obispo and City of Arroyo Grande). In addition, project construction noise impacts at any one residence during pipeline construction would be temporary and short-term because construction would be continuously moving along the pipeline alignment at a rate of approximately 124 LF per day. Therefore, cumulative construction noise impacts would be less than significant.
- **Transportation.** Overlapping construction schedules associated with cumulative development projects in conjunction with proposed project activities could result in cumulative transportation impacts. Similar to the proposed project, cumulative projects would be required to prepare traffic control plans as part of the encroachment permitting process for construction within Caltrans or County ROW, which would minimize impacts to transportation hazards and emergency access. The project would require fewer maintenance trips in operation compared to existing conditions; accordingly, there would be no cumulative operational impact. Therefore, cumulative transportation impacts would be less than significant.
- **Wildfire:** As described in Section 20, *Wildfire*, potential wildfire impacts associated with the project would be limited to heavy-duty construction equipment possibly producing sparks to ignite vegetation, which would be less than significant with compliance with applicable law. Project operation would not involve potentially flammable activities. In addition, the proposed project would not introduce habitable structures, and therefore, would not expose new residents to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Since there would be no long-term operational wildfire impacts and any construction-related wildfire impacts would be short-term, the project's contribution to any cumulative impact, significant or otherwise, would not be considerable.

Given the above discussion, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact with mitigation incorporated.

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

In general, impacts to human beings are associated with air quality, hazards and hazardous materials, noise, and wildfire impacts. As discussed in Section 3, *Air Quality*, the project would not conflict with or obstruct implementation of the Clean Air Plan and would not expose human beings to substantial air pollutant emissions in excess of regional and localized significance thresholds.

As discussed in Section 9, *Hazards and Hazardous Materials*, compliance with applicable rules and regulations and implementation of Mitigation Measures HAZ-1 and HAZ-2 would reduce potential impacts on human beings related to hazards and hazardous materials to a less-than-significant level.

As discussed in Section 13, *Noise*, with implementation of Mitigation Measure NOI-1, the project would not generate noise in exceedance of local noise standards.

As discussed in Section 20, *Wildfire*, while some pipeline segments are located in or near areas prone to wildfire, the project would not exacerbate wildfire risks. The project pipeline segments are located in construction equipment would comply with regulatory standards to reduce the risk of fire ignition. Furthermore, the project would address water system deficiencies and upgrade the water system to provide adequate fire flow, which would provide a beneficial impact related to fire protection services.

Therefore, the project would not substantially adversely affect human beings, directly or indirectly, and impacts would be less than significant with mitigation.

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# Alternatives

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The project applicant is pursuing funding from the SWRCB Clean Water State Revolving Fund, which requires funding applicants to complete an environmental alternative analysis as part of the Environmental Package of the funding application. The following section provides a description of the No Project Alternative, a comparative analysis and a discussion of the environmental reasoning for selection of the proposed project.

## No Project Alternative

### Description

Under this alternative, the CIP segments identified in Table 1 would not be installed or replaced, and existing pipelines would remain in operation. The extension of dead-end pipelines would not occur, the emergency intertie with the City of Arroyo Grande system would not be constructed, and control valves in the existing pipelines system would not be replaced or installed. Because several water mains were constructed up to 70 years ago, the OCSD system would continue to approach its useful life expectancy and the risk of leaks and breakages would increase. The project area may be adversely affected by the unforeseen release of water, and OCSD water service could be interrupted or impacted by unforeseen leaks and pipe breakages. Additionally, without the emergency intertie with the City of Arroyo Grande water system, both systems would lack the emergency supply capability that the intertie would provide.

### *Aesthetics*

The No Project Alternative would not involve construction of new waterlines, which would have resulted in temporary impacts to aesthetics. Therefore, under this alternative, no impacts to scenic vistas, state scenic highways, conflicts with applicable zoning or other regulations, or impacts associated with light and glare would occur, and impacts would be reduced compared to the proposed project.

### *Agriculture and Forestry Resources*

The No Project Alternative would not involve construction or changes in operation that would result in the conversion of agricultural or forest land to non-agricultural or non-forest use. As discussed in Section 2, *Agriculture and Forestry Resources*, the project area is not located within designated Farmland or forest land. Therefore, no impacts to agriculture and forestry resources would occur, similar to the proposed project.

### *Air Quality*

The No Project Alternative would not involve construction or changes in operation that would result in air pollutant emissions. Therefore, the No Project Alternative would not result in impacts associated with obstruction of the implementation of an air quality plan, resulting in a net increase of any criteria pollutant, exposing sensitive receptors to substantial pollutant concentrations, or resulting in other emissions that would adversely affect a substantial number of people. This alternative would have no impact to air quality, and impacts would be reduced compared to the proposed project.

### *Biological Resources*

The No Project Alternative would not involve construction or changes in operation that would directly result in physical changes to the environment. Therefore, the No Project Alternative would not have a substantial adverse effect on special status species, habitats, protected wetlands, or wildlife corridors. The No Project Alternative would not conflict with local policies or ordinances protecting biological resources or an adopted habitat conservation or natural community conservation plan. No impact would occur and impacts would be reduced compared to the proposed project. Mitigation Measures BIO-1 through BIO-7 would not be required.

### *Cultural Resources*

The No Project Alternative would not involve construction or changes in operation that would directly result in physical changes to the environment or ground disturbance. Therefore, the No Project Alternative would result in no impacts to historical or archaeological resources or human remains. No impact would occur and impacts would be reduced compared to the proposed project. Mitigation Measures CR-1 through CR-4 would not be required.

### *Energy*

The No Project Alternative would not directly involve construction or changes in operation that would require more energy compared to existing conditions. However, as the OCS D water system reaches and surpasses its useful life expectancy, the risk of pipeline leaks and breakages would increase. Unforeseen leaks and breakages would require OCS D to conduct emergency repairs, which would also require vehicle trips and heavy machinery. Overall, energy impacts would likely be reduced as compared to the proposed project.

### *Geology and Soils*

The No Project Alternative would not involve construction or operation changes, and accordingly would not increase existing geologic and seismic risks associated with fault rupture, ground shaking, ground failure, or landslides. Because the No Project Alternative would not require construction, it would not result in impacts related to soil erosion or the loss of topsoil and would not involve ground disturbance that could impact a paleontological resource. However, as the OCS D water system reaches and surpasses its useful life expectancy, aging infrastructure would become more susceptible to leaks and breakages during seismic events. While this alternative would not directly result in impacts associated with geology and soils, the No Project Alternative would increase the risk of seismically-induced pipeline leaks and breakages. Impacts would be less than significant and similar to the proposed project.

### *Greenhouse Gas Emissions*

The No Project Alternative would not involve construction or changes in operation that would directly generate GHG emissions. However, as the OCS D water system ages and the risk of leaks and breakages increases, OCS D could be required to conduct emergency maintenance trips and repairs. Increased maintenance vehicle trips and pipeline repair projects could generate GHG emissions that would exceed the operational GHG emissions associated with the proposed project. Overall, due to the lack of construction activities, GHG emissions impacts would be reduced as compared to the proposed project.

### *Hazards and Hazardous Materials*

The No Project Alternative would not involve construction or changes in operation that would require the routine transport, use, or disposal of hazardous materials, and would not involve ground disturbance activities that could unearth potential contaminants. There would be no impact, and Mitigation Measures HAZ -1 and HAZ-2 would not be required. Because no construction would occur, the No Project Alternative would not expose workers to airport noise, involve road closures, or involve the use of equipment that could result in the ignition of wildfires. Overall, impacts would be reduced compared to the proposed project, except the No Project Alternative would not provide the project's beneficial impacts related to adequate fire flows.

### *Hydrology and Water Quality*

The No Project Alternative would not involve construction or changes in operation that would involve ground disturbance. Accordingly, the No Project Alternative would not result in impacts associated with water quality standards, waste discharge requirements, or degradation of surface or ground water quality. Overall, impacts to hydrology and water quality would be reduced under the No Project Alternative, but the risk of waterline leaks and breakages and the loss of water supplies would be increased compared to the proposed project.

### *Land Use and Planning*

The No Project Alternative would not involve construction or physical changes in the environment that would physically divide an established community or conflict with a regulation adopted for the purpose of avoiding or mitigating an environmental effect. No impact to land use and planning would occur, similar to the proposed project.

### *Mineral Resources*

The No Project Alternative would not involve construction or physical changes in the environment that would result in the loss of availability of a known mineral resource. No impact to mineral resources would occur, similar to the proposed project.

### *Noise*

The No Project Alternative would not directly involve construction or changes in operational activities that would generate noise. However, as the risk of leaks and breakages increases, OCSD may have to conduct emergency repairs that would generate noise and vibration. Therefore, construction noise and vibration impacts of the No Project Alternative could be similar to the proposed project. Overall, noise impacts under the No Project Alternative would be reduced compared to the proposed project, but this alternative would result in noise and vibration during emergency repairs and maintenance.

### *Population and Housing*

The No Project Alternative would not facilitate the development of housing or businesses that would directly or indirectly induce population growth in the project area. Similarly, the No Project Alternative would not result in the demolition of housing and would not displace existing people or housing. No impact would occur, similar to the proposed project.

### *Public Services*

The No Project Alternative would not require new or additional fire protection, police protection, school facilities, new or altered parks, or other public facilities. Accordingly, the project would not require the construction of public facilities which could cause significant environmental impacts. No impact would occur, similar to the proposed project.

### *Recreation*

The No Project Alternative would not increase the use of existing recreation facilities or involve the construction of new recreation facilities. No impact would occur, similar to the proposed project.

### *Transportation*

The No Project Alternative would not involve construction or changes in operation activities that would directly increase vehicle trips in the project area, and would not result in increased demand for roadway, bicycle, pedestrian, or transit facilities. Accordingly, the project would not conflict with a program, plan, ordinance, or policy addressing the circulation system. However, as the risk of leaks and breakages increases as the existing waterlines age, emergency repair vehicle trips would be required. The number of emergency vehicle trips would likely be greater than the occasional maintenance trips the proposed project would require; accordingly, the No Project Alternative would likely result in a greater impact to VMT. The No Project Alternative would not involve physical changes to the environment that would increase vehicle hazards or result in inadequate emergency access. Overall, impacts to transportation would be greater under the No Project Alternative as emergency repair trips would be required to address the increased risk of leaks and breakages.

### *Tribal Cultural Resources*

The No Project Alternative would not involve construction or operational activities that would result in ground disturbance or physical changes in the environment that could impact tribal cultural resources. No impact would occur and impacts to tribal cultural resources would be reduced compared to the proposed project.

### *Utilities and Service Systems*

The No Project Alternative would not involve repair or replacement of water mains within the OCSD service system. As OCSD facilities continue to age, the risk of leaks and breakages will increase, which may require OCSD to construct new or expanded water facilities in the future. The construction or relocation of new water facilities could result in impacts to the environment. Similar to the proposed project, the No Project Alternative would not require new or expanded stormwater drainage, electricity, natural gas, or telecommunication facilities. Overall, impacts to utilities and service systems would be greater under the No Project Alternative.

### *Wildfire*

The No Project Alternative would not involve construction activities that would increase the risk of wildfire and no impact would occur. However, the No Project Alternative would not provide the project's beneficial impacts related to adequate fire flows.

### *Cumulative Impacts*

As discussed in Section 21, *Mandatory Findings of Significance*, there are five planned projects in the vicinity of the project site. The No Project Alternative would not involve construction or operational activities that would overlap with construction or operation of these cumulative projects or other development in the project area; accordingly, the No Project Alternative would not result in a cumulatively considerable contribution to cumulative impacts.

### **Conclusion**

The No Project Alternative would result in reduced impacts to aesthetics, air quality, biological resources, cultural resources, energy, GHG emissions, hazards and hazardous materials, hydrology and water quality, noise, transportation, tribal cultural resources, utilities and service systems, and wildfire. Similar to the proposed project, the No Project Alternative would have no impacts related to agriculture and forestry resources, land use and planning, mineral resources, population and housing, public services, and recreation. However, because the No Project Alternative would not fulfill the proposed project's purpose related to addressing system deficiencies and providing adequate fire flow, it would not contribute the proposed project's beneficial environmental impacts related to fire protection services (Hazards and Hazardous Materials, Wildfire) and water infrastructure resilience (Utilities).

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## List of Preparers

Rincon Consultants, Inc. prepared this IS-MND under contract to the Oceano Community Services District. Persons involved in data gathering analysis, project management, and quality control are listed below.

### **Rincon Consultants, Inc.**

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Kayleigh Limbach, Environmental Planner  
Aaron Rojas, Environmental Planner  
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Colby Boggs, Principal/Senior Biologist  
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Andrew McGrath, Paleontologist  
Allysen Valencia, GIS Analyst  
Nikole Vannest, GIS Analyst  
Chris Jackson-Jordan, GIS Analyst

# Appendix A

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CalEEMod Modeling Outputs

Waterline Improvement Project - All Phases\_AQ - San Luis Obispo County APCD Air District, Annual

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

**Waterline Improvement Project - All Phases\_AQ**

**San Luis Obispo County APCD Air District, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	76.15	1000sqft	1.75	76,150.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.2	<b>Precipitation Freq (Days)</b>	44
<b>Climate Zone</b>	4			<b>Operational Year</b>	2025
<b>Utility Company</b>	Pacific Gas and Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	203.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Based on information provided by the applicant

Construction Phase - Construction schedule provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment provided by the applicant

Off-road Equipment - Construction equipment provided by the applicant

Off-road Equipment - Construction equipment provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment provided by the applicant

Off-road Equipment - Construction equipment provided by the applicant

Off-road Equipment - Construction equipment provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Waterline Improvement Project - All Phases\_AQ - San Luis Obispo County APCD Air District, Annual

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

Off-road Equipment - Construction equipment provided by the applicant

Off-road Equipment - Construction equipment provided by the applicant

Off-road Equipment - Construction equipment provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment provided by the applicant

Grading - Data provided by the applicant

Vehicle Trips - Assumed one worker trip per year for one day. The length of total pipeline multiply by two is the assumed for vehicle miles

Construction Off-road Equipment Mitigation - Based on SLOAPCD Fugitive Dust Mitigation Measures: Expanded List

Area Coating -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	4.00	5.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	4.00	5.00
tblConstructionPhase	NumDays	4.00	30.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	2.00	15.00
tblGrading	MaterialExported	0.00	415.00
tblGrading	MaterialExported	0.00	863.00
tblGrading	MaterialExported	0.00	1,039.00
tblGrading	MaterialExported	0.00	683.00
tblGrading	MaterialImported	0.00	332.00
tblGrading	MaterialImported	0.00	690.00
tblGrading	MaterialImported	0.00	831.00

Waterline Improvement Project - All Phases\_AQ - San Luis Obispo County APCD Air District, Annual

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

tblGrading	MaterialImported	0.00	547.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00



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

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblVehicleTrips	CW_TL	13.00	0.04
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	0.01

**2.0 Emissions Summary**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-1-2025	3-31-2025	0.4384	0.4384
2	4-1-2025	6-30-2025	0.4515	0.4515
3	7-1-2025	9-30-2025	0.4463	0.4463
		Highest	0.4515	0.4515

**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	6.6300e-003	1.0000e-005	1.2800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4900e-003	2.4900e-003	1.0000e-005	0.0000	2.6600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.5000e-004	7.0000e-005	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0155	0.0155	1.0000e-005	1.0000e-005	0.0174
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>6.7800e-003</b>	<b>8.0000e-005</b>	<b>1.8600e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0179</b>	<b>0.0179</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0200</b>

Waterline Improvement Project - All Phases\_AQ - San Luis Obispo County APCD Air District, Annual

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

**2.2 Overall Operational**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.6300e-003	1.0000e-005	1.2800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4900e-003	2.4900e-003	1.0000e-005	0.0000	2.6600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.5000e-004	7.0000e-005	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0155	0.0155	1.0000e-005	1.0000e-005	0.0174
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>6.7800e-003</b>	<b>8.0000e-005</b>	<b>1.8600e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0179</b>	<b>0.0179</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0200</b>

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

**3.0 Construction Detail**

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demo/Site Prep - Phase Pier Area	Site Preparation	1/1/2025	1/21/2025	5	15	
2	Pipeline Install (trenchless) - Phase Pier Area	Grading	1/22/2025	1/28/2025	5	5	
3	Pipeline Install (trench) - Phase Pier Area	Grading	1/29/2025	3/11/2025	5	30	

Waterline Improvement Project - All Phases\_AQ - San Luis Obispo County APCD Air District, Annual

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

4	Paving/Ground Restoration - Phase Pier Area	Paving	3/12/2025	3/25/2025	5	10
5	Demo/Site Prep - Phase Central Area	Site Preparation	3/26/2025	4/15/2025	5	15
6	Pipeline Install (trenchless) - Phase Central Area	Grading	4/16/2025	4/22/2025	5	5
7	Pipeline Install (trench) - Phase Central Area	Grading	4/23/2025	6/3/2025	5	30
8	Paving/Ground Restoration - Phase Central Area	Paving	6/4/2025	6/17/2025	5	10
9	Demo/Site Prep - Phase Strand Area	Site Preparation	6/18/2025	7/8/2025	5	15
10	Pipeline Install (trench) - Phase Strand Area	Grading	7/9/2025	8/19/2025	5	30
11	Paving/Ground Restoration - Phase Strand Area	Paving	8/20/2025	9/2/2025	5	10
12	Demo/Site Prep - Phase East Area	Site Preparation	9/3/2025	9/23/2025	5	15
13	Pipeline Install (trench) - Phase East Area	Grading	9/24/2025	11/4/2025	5	30
14	Paving/Ground Restoration - Phase East Area	Paving	11/5/2025	11/18/2025	5	10

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 1.75**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demo/Site Prep - Phase Pier Area	Air Compressors	1	8.00	78	0.48
Demo/Site Prep - Phase Pier Area	Cement and Mortar Mixers	1	8.00	9	0.56
Demo/Site Prep - Phase Pier Area	Generator Sets	1	8.00	84	0.74
Demo/Site Prep - Phase Pier Area	Graders	0	8.00	187	0.41
Demo/Site Prep - Phase Pier Area	Off-Highway Trucks	1	2.00	402	0.38
Demo/Site Prep - Phase Pier Area	Rubber Tired Dozers	0	7.00	247	0.40

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

Demo/Site Prep - Phase Pier Area	Rubber Tired Loaders	1	8.00	203	0.36
Demo/Site Prep - Phase Pier Area	Signal Boards	1	8.00	6	0.82
Demo/Site Prep - Phase Pier Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Install (trenchless) - Phase Pier Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trenchless) - Phase Pier Area	Bore/Drill Rigs	1	8.00	221	0.50
Pipeline Install (trenchless) - Phase Pier Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trenchless) - Phase Pier Area	Graders	0	8.00	187	0.41
Pipeline Install (trenchless) - Phase Pier Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trenchless) - Phase Pier Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trenchless) - Phase Pier Area	Rollers	1	8.00	80	0.38
Pipeline Install (trenchless) - Phase Pier Area	Rubber Tired Dozers	0	8.00	247	0.40
Pipeline Install (trenchless) - Phase Pier Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trenchless) - Phase Pier Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trenchless) - Phase Pier Area	Welders	1	8.00	46	0.45
Pipeline Install (trench) - Phase Pier Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trench) - Phase Pier Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trench) - Phase Pier Area	Graders	0	8.00	187	0.41
Pipeline Install (trench) - Phase Pier Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trench) - Phase Pier Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trench) - Phase Pier Area	Rough Terrain Forklifts	1	8.00	100	0.40
Pipeline Install (trench) - Phase Pier Area	Rubber Tired Dozers	0	8.00	247	0.40
Pipeline Install (trench) - Phase Pier Area	Rubber Tired Loaders	1	8.00	203	0.36
Pipeline Install (trench) - Phase Pier Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trench) - Phase Pier Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37

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

Pipeline Install (trench) - Phase Pier Area	Trenchers	1	8.00	78	0.50
Paving/Ground Restoration - Phase Pier Area	Air Compressors	1	8.00	78	0.48
Paving/Ground Restoration - Phase Pier Area	Cement and Mortar Mixers	1	6.00	9	0.56
Paving/Ground Restoration - Phase Pier Area	Concrete/Industrial Saws	1	8.00	81	0.73
Paving/Ground Restoration - Phase Pier Area	Generator Sets	1	8.00	84	0.74
Paving/Ground Restoration - Phase Pier Area	Off-Highway Trucks	1	2.00	402	0.38
Paving/Ground Restoration - Phase Pier Area	Pavers	1	6.00	130	0.42
Paving/Ground Restoration - Phase Pier Area	Paving Equipment	1	8.00	132	0.36
Paving/Ground Restoration - Phase Pier Area	Plate Compactors	1	8.00	8	0.43
Paving/Ground Restoration - Phase Pier Area	Rollers	0	7.00	80	0.38
Paving/Ground Restoration - Phase Pier Area	Signal Boards	1	8.00	6	0.82
Paving/Ground Restoration - Phase Pier Area	Surfacing Equipment	1	8.00	263	0.30
Paving/Ground Restoration - Phase Pier Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demo/Site Prep - Phase Central Area	Air Compressors	1	8.00	78	0.48
Demo/Site Prep - Phase Central Area	Concrete/Industrial Saws	1	8.00	81	0.73
Demo/Site Prep - Phase Central Area	Generator Sets	1	8.00	84	0.74
Demo/Site Prep - Phase Central Area	Graders	0	8.00	187	0.41
Demo/Site Prep - Phase Central Area	Off-Highway Trucks	1	2.00	402	0.38
Demo/Site Prep - Phase Central Area	Rubber Tired Dozers	0	7.00	247	0.40
Demo/Site Prep - Phase Central Area	Rubber Tired Loaders	1	8.00	203	0.36
Demo/Site Prep - Phase Central Area	Signal Boards	1	8.00	6	0.82
Demo/Site Prep - Phase Central Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Install (trenchless) - Phase Central Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trenchless) - Phase Central Area	Bore/Drill Rigs	1	8.00	221	0.50
Pipeline Install (trenchless) - Phase Central Area	Generator Sets	1	8.00	84	0.74

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

Pipeline Install (trenchless) - Phase Central Area	Graders	0	8.00	187	0.41
Pipeline Install (trenchless) - Phase Central Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trenchless) - Phase Central Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trenchless) - Phase Central Area	Rollers	1	8.00	80	0.38
Pipeline Install (trenchless) - Phase Central Area	Rubber Tired Dozers	0	8.00	247	0.40
Pipeline Install (trenchless) - Phase Central Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trenchless) - Phase Central Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trenchless) - Phase Central Area	Welders	1	8.00	46	0.45
Pipeline Install (trench) - Phase Central Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trench) - Phase Central Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trench) - Phase Central Area	Graders	0	8.00	187	0.41
Pipeline Install (trench) - Phase Central Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trench) - Phase Central Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trench) - Phase Central Area	Rough Terrain Forklifts	1	8.00	100	0.40
Pipeline Install (trench) - Phase Central Area	Rubber Tired Dozers	0	8.00	247	0.40
Pipeline Install (trench) - Phase Central Area	Rubber Tired Loaders	1	8.00	203	0.36
Pipeline Install (trench) - Phase Central Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trench) - Phase Central Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trench) - Phase Central Area	Trenchers	1	8.00	78	0.50
Paving/Ground Restoration - Phase Central Area	Air Compressors	1	8.00	78	0.48
Paving/Ground Restoration - Phase Central Area	Cement and Mortar Mixers	1	6.00	9	0.56
Paving/Ground Restoration - Phase Central Area	Concrete/Industrial Saws	1	8.00	81	0.73
Paving/Ground Restoration - Phase Central Area	Generator Sets	1	8.00	84	0.74



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

Paving/Ground Restoration - Phase Central Area	Off-Highway Trucks	1	2.00	402	0.38
Paving/Ground Restoration - Phase Central Area	Pavers	1	6.00	130	0.42
Paving/Ground Restoration - Phase Central Area	Paving Equipment	1	8.00	132	0.36
Paving/Ground Restoration - Phase Central Area	Plate Compactors	1	8.00	8	0.43
Paving/Ground Restoration - Phase Central Area	Rollers	0	7.00	80	0.38
Paving/Ground Restoration - Phase Central Area	Signal Boards	1	8.00	6	0.82
Paving/Ground Restoration - Phase Central Area	Surfacing Equipment	1	8.00	263	0.30
Paving/Ground Restoration - Phase Central Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demo/Site Prep - Phase Strand Area	Air Compressors	1	8.00	78	0.48
Demo/Site Prep - Phase Strand Area	Concrete/Industrial Saws	1	8.00	81	0.73
Demo/Site Prep - Phase Strand Area	Generator Sets	1	8.00	84	0.74
Demo/Site Prep - Phase Strand Area	Graders	0	8.00	187	0.41
Demo/Site Prep - Phase Strand Area	Off-Highway Trucks	1	2.00	402	0.38
Demo/Site Prep - Phase Strand Area	Rubber Tired Dozers	0	7.00	247	0.40
Demo/Site Prep - Phase Strand Area	Rubber Tired Loaders	1	8.00	203	0.36
Demo/Site Prep - Phase Strand Area	Signal Boards	1	8.00	6	0.82
Demo/Site Prep - Phase Strand Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Install (trench) - Phase Strand Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trench) - Phase Strand Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trench) - Phase Strand Area	Graders	0	8.00	187	0.41
Pipeline Install (trench) - Phase Strand Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trench) - Phase Strand Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trench) - Phase Strand Area	Rough Terrain Forklifts	1	8.00	100	0.40
Pipeline Install (trench) - Phase Strand Area	Rubber Tired Dozers	0	8.00	247	0.40
Pipeline Install (trench) - Phase Strand Area	Rubber Tired Loaders	1	8.00	203	0.36

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Pipeline Install (trench) - Phase Strand Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trench) - Phase Strand Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trench) - Phase Strand Area	Trenchers	1	8.00	78	0.50
Paving/Ground Restoration - Phase Strand Area	Air Compressors	1	8.00	78	0.48
Paving/Ground Restoration - Phase Strand Area	Cement and Mortar Mixers	1	6.00	9	0.56
Paving/Ground Restoration - Phase Strand Area	Concrete/Industrial Saws	1	8.00	81	0.73
Paving/Ground Restoration - Phase Strand Area	Generator Sets	1	8.00	84	0.74
Paving/Ground Restoration - Phase Strand Area	Off-Highway Trucks	1	2.00	402	0.38
Paving/Ground Restoration - Phase Strand Area	Pavers	1	6.00	130	0.42
Paving/Ground Restoration - Phase Strand Area	Paving Equipment	1	8.00	132	0.36
Paving/Ground Restoration - Phase Strand Area	Plate Compactors	1	8.00	8	0.43
Paving/Ground Restoration - Phase Strand Area	Rollers	0	7.00	80	0.38
Paving/Ground Restoration - Phase Strand Area	Signal Boards	1	8.00	6	0.82
Paving/Ground Restoration - Phase Strand Area	Surfacing Equipment	1	8.00	263	0.30
Paving/Ground Restoration - Phase Strand Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demo/Site Prep - Phase East Area	Concrete/Industrial Saws	1	8.00	81	0.73
Demo/Site Prep - Phase East Area	Generator Sets	1	8.00	84	0.74
Demo/Site Prep - Phase East Area	Graders	0	8.00	187	0.41
Demo/Site Prep - Phase East Area	Off-Highway Trucks	1	2.00	402	0.38
Demo/Site Prep - Phase East Area	Plate Compactors	1	8.00	8	0.43
Demo/Site Prep - Phase East Area	Rubber Tired Dozers	0	7.00	247	0.40
Demo/Site Prep - Phase East Area	Rubber Tired Loaders	1	8.00	203	0.36
Demo/Site Prep - Phase East Area	Signal Boards	1	8.00	6	0.82
Demo/Site Prep - Phase East Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Install (trench) - Phase East Area	Air Compressors	1	8.00	78	0.48

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

Pipeline Install (trench) - Phase East Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trench) - Phase East Area	Graders	0	8.00	187	0.41
Pipeline Install (trench) - Phase East Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trench) - Phase East Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trench) - Phase East Area	Rough Terrain Forklifts	1	8.00	100	0.40
Pipeline Install (trench) - Phase East Area	Rubber Tired Dozers	0	8.00	247	0.40
Pipeline Install (trench) - Phase East Area	Rubber Tired Loaders	1	8.00	203	0.36
Pipeline Install (trench) - Phase East Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trench) - Phase East Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trench) - Phase East Area	Trenchers	1	8.00	78	0.50
Paving/Ground Restoration - Phase East Area	Air Compressors	1	8.00	78	0.48
Paving/Ground Restoration - Phase East Area	Cement and Mortar Mixers	1	6.00	9	0.56
Paving/Ground Restoration - Phase East Area	Concrete/Industrial Saws	1	8.00	81	0.73
Paving/Ground Restoration - Phase East Area	Generator Sets	1	8.00	84	0.74
Paving/Ground Restoration - Phase East Area	Off-Highway Trucks	1	2.00	402	0.38
Paving/Ground Restoration - Phase East Area	Pavers	1	6.00	130	0.42
Paving/Ground Restoration - Phase East Area	Paving Equipment	1	8.00	132	0.36
Paving/Ground Restoration - Phase East Area	Plate Compactors	1	8.00	8	0.43
Paving/Ground Restoration - Phase East Area	Rollers	0	7.00	80	0.38
Paving/Ground Restoration - Phase East Area	Signal Boards	1	8.00	6	0.82
Paving/Ground Restoration - Phase East Area	Surfacing Equipment	1	8.00	263	0.30
Paving/Ground Restoration - Phase East Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37

**Trips and VMT**

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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demo/Site Prep - Phase Pier Area	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trenchless) - Phase P	9	23.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trench) - Phase Pier	9	23.00	0.00	234.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving/Ground Restoration - Phase Pi	11	28.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Demo/Site Prep - Phase Central Area	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trenchless) - Phase C	9	23.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trench) - Phase Centr	9	23.00	0.00	154.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving/Ground Restoration - Phase C	11	28.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Demo/Site Prep - Phase Strand Area	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trench) - Phase Stran	9	23.00	0.00	93.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving/Ground Restoration - Phase St	11	28.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Demo/Site Prep - Phase East Area	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trench) - Phase East	9	23.00	0.00	194.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving/Ground Restoration - Phase E	11	28.00	0.00	0.00	13.00	5.00	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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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**3.2 Demo/Site Prep - Phase Pier Area - 2025**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1800e-003	0.0642	0.0838	1.8000e-004		2.5100e-003	2.5100e-003		2.4200e-003	2.4200e-003	0.0000	15.8240	15.8240	3.0700e-003	0.0000	15.9007
<b>Total</b>	<b>8.1800e-003</b>	<b>0.0642</b>	<b>0.0838</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>2.5100e-003</b>	<b>2.5100e-003</b>	<b>0.0000</b>	<b>2.4200e-003</b>	<b>2.4200e-003</b>	<b>0.0000</b>	<b>15.8240</b>	<b>15.8240</b>	<b>3.0700e-003</b>	<b>0.0000</b>	<b>15.9007</b>

**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	3.8000e-004	2.5000e-004	3.1200e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3100e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	0.9634	0.9634	2.0000e-005	2.0000e-005	0.9714
<b>Total</b>	<b>3.8000e-004</b>	<b>2.5000e-004</b>	<b>3.1200e-003</b>	<b>1.0000e-005</b>	<b>1.3000e-003</b>	<b>1.0000e-005</b>	<b>1.3100e-003</b>	<b>3.5000e-004</b>	<b>1.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>0.9634</b>	<b>0.9634</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.9714</b>

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

**3.2 Demo/Site Prep - Phase Pier Area - 2025**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1800e-003	0.0642	0.0838	1.8000e-004		2.5100e-003	2.5100e-003		2.4200e-003	2.4200e-003	0.0000	15.8240	15.8240	3.0700e-003	0.0000	15.9006
<b>Total</b>	<b>8.1800e-003</b>	<b>0.0642</b>	<b>0.0838</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>2.5100e-003</b>	<b>2.5100e-003</b>	<b>0.0000</b>	<b>2.4200e-003</b>	<b>2.4200e-003</b>	<b>0.0000</b>	<b>15.8240</b>	<b>15.8240</b>	<b>3.0700e-003</b>	<b>0.0000</b>	<b>15.9006</b>

**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	3.8000e-004	2.5000e-004	3.1200e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3100e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	0.9634	0.9634	2.0000e-005	2.0000e-005	0.9714
<b>Total</b>	<b>3.8000e-004</b>	<b>2.5000e-004</b>	<b>3.1200e-003</b>	<b>1.0000e-005</b>	<b>1.3000e-003</b>	<b>1.0000e-005</b>	<b>1.3100e-003</b>	<b>3.5000e-004</b>	<b>1.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>0.9634</b>	<b>0.9634</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.9714</b>

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

**3.3 Pipeline Install (trenchless) - Phase Pier Area - 2025**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4800e-003	0.0277	0.0372	8.0000e-005		1.0900e-003	1.0900e-003		1.0500e-003	1.0500e-003	0.0000	6.9062	6.9062	1.4500e-003	0.0000	6.9424
<b>Total</b>	<b>3.4800e-003</b>	<b>0.0277</b>	<b>0.0372</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>	<b>1.0500e-003</b>	<b>1.0500e-003</b>	<b>0.0000</b>	<b>6.9062</b>	<b>6.9062</b>	<b>1.4500e-003</b>	<b>0.0000</b>	<b>6.9424</b>

**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	1.6000e-004	1.1000e-004	1.3300e-003	0.0000	5.5000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4103	0.4103	1.0000e-005	1.0000e-005	0.4137
<b>Total</b>	<b>1.6000e-004</b>	<b>1.1000e-004</b>	<b>1.3300e-003</b>	<b>0.0000</b>	<b>5.5000e-004</b>	<b>0.0000</b>	<b>5.6000e-004</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>0.4103</b>	<b>0.4103</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.4137</b>

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

**3.3 Pipeline Install (trenchless) - Phase Pier Area - 2025**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4800e-003	0.0277	0.0372	8.0000e-005		1.0900e-003	1.0900e-003		1.0500e-003	1.0500e-003	0.0000	6.9062	6.9062	1.4500e-003	0.0000	6.9424
<b>Total</b>	<b>3.4800e-003</b>	<b>0.0277</b>	<b>0.0372</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>	<b>1.0500e-003</b>	<b>1.0500e-003</b>	<b>0.0000</b>	<b>6.9062</b>	<b>6.9062</b>	<b>1.4500e-003</b>	<b>0.0000</b>	<b>6.9424</b>

**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	1.6000e-004	1.1000e-004	1.3300e-003	0.0000	5.5000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4103	0.4103	1.0000e-005	1.0000e-005	0.4137
<b>Total</b>	<b>1.6000e-004</b>	<b>1.1000e-004</b>	<b>1.3300e-003</b>	<b>0.0000</b>	<b>5.5000e-004</b>	<b>0.0000</b>	<b>5.6000e-004</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>0.4103</b>	<b>0.4103</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.4137</b>



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

**3.4 Pipeline Install (trench) - Phase Pier Area - 2025**

**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					1.7000e-004	0.0000	1.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0220	0.1876	0.2348	4.6000e-004		8.3300e-003	8.3300e-003		7.8900e-003	7.8900e-003	0.0000	39.9115	39.9115	8.8600e-003	0.0000	40.1329
<b>Total</b>	<b>0.0220</b>	<b>0.1876</b>	<b>0.2348</b>	<b>4.6000e-004</b>	<b>1.7000e-004</b>	<b>8.3300e-003</b>	<b>8.5000e-003</b>	<b>3.0000e-005</b>	<b>7.8900e-003</b>	<b>7.9200e-003</b>	<b>0.0000</b>	<b>39.9115</b>	<b>39.9115</b>	<b>8.8600e-003</b>	<b>0.0000</b>	<b>40.1329</b>

**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	3.0000e-004	0.0186	3.8700e-003	7.0000e-005	2.0000e-003	1.5000e-004	2.1500e-003	5.5000e-004	1.4000e-004	6.9000e-004	0.0000	6.9163	6.9163	2.6000e-004	1.1000e-003	7.2498
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8000e-004	6.4000e-004	7.9600e-003	3.0000e-005	3.3200e-003	1.0000e-005	3.3400e-003	8.8000e-004	1.0000e-005	9.0000e-004	0.0000	2.4620	2.4620	6.0000e-005	6.0000e-005	2.4824
<b>Total</b>	<b>1.2800e-003</b>	<b>0.0192</b>	<b>0.0118</b>	<b>1.0000e-004</b>	<b>5.3200e-003</b>	<b>1.6000e-004</b>	<b>5.4900e-003</b>	<b>1.4300e-003</b>	<b>1.5000e-004</b>	<b>1.5900e-003</b>	<b>0.0000</b>	<b>9.3783</b>	<b>9.3783</b>	<b>3.2000e-004</b>	<b>1.1600e-003</b>	<b>9.7322</b>

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

**3.4 Pipeline Install (trench) - Phase Pier Area - 2025**

**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					8.0000e-005	0.0000	8.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0220	0.1876	0.2348	4.6000e-004		8.3300e-003	8.3300e-003		7.8900e-003	7.8900e-003	0.0000	39.9115	39.9115	8.8600e-003	0.0000	40.1329
<b>Total</b>	<b>0.0220</b>	<b>0.1876</b>	<b>0.2348</b>	<b>4.6000e-004</b>	<b>8.0000e-005</b>	<b>8.3300e-003</b>	<b>8.4100e-003</b>	<b>1.0000e-005</b>	<b>7.8900e-003</b>	<b>7.9000e-003</b>	<b>0.0000</b>	<b>39.9115</b>	<b>39.9115</b>	<b>8.8600e-003</b>	<b>0.0000</b>	<b>40.1329</b>

**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	3.0000e-004	0.0186	3.8700e-003	7.0000e-005	2.0000e-003	1.5000e-004	2.1500e-003	5.5000e-004	1.4000e-004	6.9000e-004	0.0000	6.9163	6.9163	2.6000e-004	1.1000e-003	7.2498
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8000e-004	6.4000e-004	7.9600e-003	3.0000e-005	3.3200e-003	1.0000e-005	3.3400e-003	8.8000e-004	1.0000e-005	9.0000e-004	0.0000	2.4620	2.4620	6.0000e-005	6.0000e-005	2.4824
<b>Total</b>	<b>1.2800e-003</b>	<b>0.0192</b>	<b>0.0118</b>	<b>1.0000e-004</b>	<b>5.3200e-003</b>	<b>1.6000e-004</b>	<b>5.4900e-003</b>	<b>1.4300e-003</b>	<b>1.5000e-004</b>	<b>1.5900e-003</b>	<b>0.0000</b>	<b>9.3783</b>	<b>9.3783</b>	<b>3.2000e-004</b>	<b>1.1600e-003</b>	<b>9.7322</b>

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

**3.5 Paving/Ground Restoration - Phase Pier Area - 2025**

**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	8.1900e-003	0.0671	0.0992	2.0000e-004		2.8000e-003	2.8000e-003		2.6900e-003	2.6900e-003	0.0000	16.8945	16.8945	3.3200e-003	0.0000	16.9776
Paving	2.2900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0105</b>	<b>0.0671</b>	<b>0.0992</b>	<b>2.0000e-004</b>		<b>2.8000e-003</b>	<b>2.8000e-003</b>		<b>2.6900e-003</b>	<b>2.6900e-003</b>	<b>0.0000</b>	<b>16.8945</b>	<b>16.8945</b>	<b>3.3200e-003</b>	<b>0.0000</b>	<b>16.9776</b>

**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	4.0000e-004	2.6000e-004	3.2300e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.6000e-004	0.0000	0.9991	0.9991	2.0000e-005	3.0000e-005	1.0073
<b>Total</b>	<b>4.0000e-004</b>	<b>2.6000e-004</b>	<b>3.2300e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>3.6000e-004</b>	<b>1.0000e-005</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>0.9991</b>	<b>0.9991</b>	<b>2.0000e-005</b>	<b>3.0000e-005</b>	<b>1.0073</b>

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

**3.5 Paving/Ground Restoration - Phase Pier Area - 2025**

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	8.1900e-003	0.0671	0.0992	2.0000e-004		2.8000e-003	2.8000e-003		2.6900e-003	2.6900e-003	0.0000	16.8945	16.8945	3.3200e-003	0.0000	16.9776
Paving	2.2900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0105</b>	<b>0.0671</b>	<b>0.0992</b>	<b>2.0000e-004</b>		<b>2.8000e-003</b>	<b>2.8000e-003</b>		<b>2.6900e-003</b>	<b>2.6900e-003</b>	<b>0.0000</b>	<b>16.8945</b>	<b>16.8945</b>	<b>3.3200e-003</b>	<b>0.0000</b>	<b>16.9776</b>

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	4.0000e-004	2.6000e-004	3.2300e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.6000e-004	0.0000	0.9991	0.9991	2.0000e-005	3.0000e-005	1.0073
<b>Total</b>	<b>4.0000e-004</b>	<b>2.6000e-004</b>	<b>3.2300e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>3.6000e-004</b>	<b>1.0000e-005</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>0.9991</b>	<b>0.9991</b>	<b>2.0000e-005</b>	<b>3.0000e-005</b>	<b>1.0073</b>

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

**3.6 Demo/Site Prep - Phase Central Area - 2025**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9500e-003	0.0785	0.1089	2.3000e-004		3.1000e-003	3.1000e-003		3.0100e-003	3.0100e-003	0.0000	19.5127	19.5127	3.2100e-003	0.0000	19.5929
<b>Total</b>	<b>9.9500e-003</b>	<b>0.0785</b>	<b>0.1089</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>3.1000e-003</b>	<b>3.1000e-003</b>	<b>0.0000</b>	<b>3.0100e-003</b>	<b>3.0100e-003</b>	<b>0.0000</b>	<b>19.5127</b>	<b>19.5127</b>	<b>3.2100e-003</b>	<b>0.0000</b>	<b>19.5929</b>

**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	3.8000e-004	2.5000e-004	3.1200e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3100e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	0.9634	0.9634	2.0000e-005	2.0000e-005	0.9714
<b>Total</b>	<b>3.8000e-004</b>	<b>2.5000e-004</b>	<b>3.1200e-003</b>	<b>1.0000e-005</b>	<b>1.3000e-003</b>	<b>1.0000e-005</b>	<b>1.3100e-003</b>	<b>3.5000e-004</b>	<b>1.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>0.9634</b>	<b>0.9634</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.9714</b>

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

**3.6 Demo/Site Prep - Phase Central Area - 2025**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9500e-003	0.0785	0.1089	2.3000e-004		3.1000e-003	3.1000e-003		3.0100e-003	3.0100e-003	0.0000	19.5127	19.5127	3.2100e-003	0.0000	19.5929
<b>Total</b>	<b>9.9500e-003</b>	<b>0.0785</b>	<b>0.1089</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>3.1000e-003</b>	<b>3.1000e-003</b>	<b>0.0000</b>	<b>3.0100e-003</b>	<b>3.0100e-003</b>	<b>0.0000</b>	<b>19.5127</b>	<b>19.5127</b>	<b>3.2100e-003</b>	<b>0.0000</b>	<b>19.5929</b>

**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	3.8000e-004	2.5000e-004	3.1200e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3100e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	0.9634	0.9634	2.0000e-005	2.0000e-005	0.9714
<b>Total</b>	<b>3.8000e-004</b>	<b>2.5000e-004</b>	<b>3.1200e-003</b>	<b>1.0000e-005</b>	<b>1.3000e-003</b>	<b>1.0000e-005</b>	<b>1.3100e-003</b>	<b>3.5000e-004</b>	<b>1.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>0.9634</b>	<b>0.9634</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.9714</b>

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

**3.7 Pipeline Install (trenchless) - Phase Central Area - 2025**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4800e-003	0.0277	0.0372	8.0000e-005		1.0900e-003	1.0900e-003		1.0500e-003	1.0500e-003	0.0000	6.9062	6.9062	1.4500e-003	0.0000	6.9424
<b>Total</b>	<b>3.4800e-003</b>	<b>0.0277</b>	<b>0.0372</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>	<b>1.0500e-003</b>	<b>1.0500e-003</b>	<b>0.0000</b>	<b>6.9062</b>	<b>6.9062</b>	<b>1.4500e-003</b>	<b>0.0000</b>	<b>6.9424</b>

**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	1.6000e-004	1.1000e-004	1.3300e-003	0.0000	5.5000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4103	0.4103	1.0000e-005	1.0000e-005	0.4137
<b>Total</b>	<b>1.6000e-004</b>	<b>1.1000e-004</b>	<b>1.3300e-003</b>	<b>0.0000</b>	<b>5.5000e-004</b>	<b>0.0000</b>	<b>5.6000e-004</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>0.4103</b>	<b>0.4103</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.4137</b>

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

**3.7 Pipeline Install (trenchless) - Phase Central Area - 2025**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4800e-003	0.0277	0.0372	8.0000e-005		1.0900e-003	1.0900e-003		1.0500e-003	1.0500e-003	0.0000	6.9062	6.9062	1.4500e-003	0.0000	6.9424
<b>Total</b>	<b>3.4800e-003</b>	<b>0.0277</b>	<b>0.0372</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>1.0900e-003</b>	<b>1.0900e-003</b>	<b>0.0000</b>	<b>1.0500e-003</b>	<b>1.0500e-003</b>	<b>0.0000</b>	<b>6.9062</b>	<b>6.9062</b>	<b>1.4500e-003</b>	<b>0.0000</b>	<b>6.9424</b>

**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	1.6000e-004	1.1000e-004	1.3300e-003	0.0000	5.5000e-004	0.0000	5.6000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4103	0.4103	1.0000e-005	1.0000e-005	0.4137
<b>Total</b>	<b>1.6000e-004</b>	<b>1.1000e-004</b>	<b>1.3300e-003</b>	<b>0.0000</b>	<b>5.5000e-004</b>	<b>0.0000</b>	<b>5.6000e-004</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>0.4103</b>	<b>0.4103</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.4137</b>



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

**3.8 Pipeline Install (trench) - Phase Central Area - 2025**

**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					1.1000e-004	0.0000	1.1000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0220	0.1876	0.2348	4.6000e-004		8.3300e-003	8.3300e-003		7.8900e-003	7.8900e-003	0.0000	39.9115	39.9115	8.8600e-003	0.0000	40.1329
<b>Total</b>	<b>0.0220</b>	<b>0.1876</b>	<b>0.2348</b>	<b>4.6000e-004</b>	<b>1.1000e-004</b>	<b>8.3300e-003</b>	<b>8.4400e-003</b>	<b>2.0000e-005</b>	<b>7.8900e-003</b>	<b>7.9100e-003</b>	<b>0.0000</b>	<b>39.9115</b>	<b>39.9115</b>	<b>8.8600e-003</b>	<b>0.0000</b>	<b>40.1329</b>

**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	2.0000e-004	0.0122	2.5500e-003	5.0000e-005	1.3200e-003	1.0000e-004	1.4100e-003	3.6000e-004	9.0000e-005	4.6000e-004	0.0000	4.5518	4.5518	1.7000e-004	7.2000e-004	4.7712
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8000e-004	6.4000e-004	7.9600e-003	3.0000e-005	3.3200e-003	1.0000e-005	3.3400e-003	8.8000e-004	1.0000e-005	9.0000e-004	0.0000	2.4620	2.4620	6.0000e-005	6.0000e-005	2.4824
<b>Total</b>	<b>1.1800e-003</b>	<b>0.0129</b>	<b>0.0105</b>	<b>8.0000e-005</b>	<b>4.6400e-003</b>	<b>1.1000e-004</b>	<b>4.7500e-003</b>	<b>1.2400e-003</b>	<b>1.0000e-004</b>	<b>1.3600e-003</b>	<b>0.0000</b>	<b>7.0137</b>	<b>7.0137</b>	<b>2.3000e-004</b>	<b>7.8000e-004</b>	<b>7.2536</b>

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

**3.8 Pipeline Install (trench) - Phase Central Area - 2025**

**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					5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0220	0.1876	0.2348	4.6000e-004		8.3300e-003	8.3300e-003		7.8900e-003	7.8900e-003	0.0000	39.9115	39.9115	8.8600e-003	0.0000	40.1329
<b>Total</b>	<b>0.0220</b>	<b>0.1876</b>	<b>0.2348</b>	<b>4.6000e-004</b>	<b>5.0000e-005</b>	<b>8.3300e-003</b>	<b>8.3800e-003</b>	<b>1.0000e-005</b>	<b>7.8900e-003</b>	<b>7.9000e-003</b>	<b>0.0000</b>	<b>39.9115</b>	<b>39.9115</b>	<b>8.8600e-003</b>	<b>0.0000</b>	<b>40.1329</b>

**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	2.0000e-004	0.0122	2.5500e-003	5.0000e-005	1.3200e-003	1.0000e-004	1.4100e-003	3.6000e-004	9.0000e-005	4.6000e-004	0.0000	4.5518	4.5518	1.7000e-004	7.2000e-004	4.7712
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8000e-004	6.4000e-004	7.9600e-003	3.0000e-005	3.3200e-003	1.0000e-005	3.3400e-003	8.8000e-004	1.0000e-005	9.0000e-004	0.0000	2.4620	2.4620	6.0000e-005	6.0000e-005	2.4824
<b>Total</b>	<b>1.1800e-003</b>	<b>0.0129</b>	<b>0.0105</b>	<b>8.0000e-005</b>	<b>4.6400e-003</b>	<b>1.1000e-004</b>	<b>4.7500e-003</b>	<b>1.2400e-003</b>	<b>1.0000e-004</b>	<b>1.3600e-003</b>	<b>0.0000</b>	<b>7.0137</b>	<b>7.0137</b>	<b>2.3000e-004</b>	<b>7.8000e-004</b>	<b>7.2536</b>

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

**3.9 Paving/Ground Restoration - Phase Central Area - 2025**

**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	8.1900e-003	0.0671	0.0992	2.0000e-004		2.8000e-003	2.8000e-003		2.6900e-003	2.6900e-003	0.0000	16.8945	16.8945	3.3200e-003	0.0000	16.9776
Paving	2.2900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0105</b>	<b>0.0671</b>	<b>0.0992</b>	<b>2.0000e-004</b>		<b>2.8000e-003</b>	<b>2.8000e-003</b>		<b>2.6900e-003</b>	<b>2.6900e-003</b>	<b>0.0000</b>	<b>16.8945</b>	<b>16.8945</b>	<b>3.3200e-003</b>	<b>0.0000</b>	<b>16.9776</b>

**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	4.0000e-004	2.6000e-004	3.2300e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.6000e-004	0.0000	0.9991	0.9991	2.0000e-005	3.0000e-005	1.0073
<b>Total</b>	<b>4.0000e-004</b>	<b>2.6000e-004</b>	<b>3.2300e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>3.6000e-004</b>	<b>1.0000e-005</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>0.9991</b>	<b>0.9991</b>	<b>2.0000e-005</b>	<b>3.0000e-005</b>	<b>1.0073</b>

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

**3.9 Paving/Ground Restoration - Phase Central Area - 2025**

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	8.1900e-003	0.0671	0.0992	2.0000e-004		2.8000e-003	2.8000e-003		2.6900e-003	2.6900e-003	0.0000	16.8945	16.8945	3.3200e-003	0.0000	16.9776
Paving	2.2900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0105</b>	<b>0.0671</b>	<b>0.0992</b>	<b>2.0000e-004</b>		<b>2.8000e-003</b>	<b>2.8000e-003</b>		<b>2.6900e-003</b>	<b>2.6900e-003</b>	<b>0.0000</b>	<b>16.8945</b>	<b>16.8945</b>	<b>3.3200e-003</b>	<b>0.0000</b>	<b>16.9776</b>

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	4.0000e-004	2.6000e-004	3.2300e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.6000e-004	0.0000	0.9991	0.9991	2.0000e-005	3.0000e-005	1.0073
<b>Total</b>	<b>4.0000e-004</b>	<b>2.6000e-004</b>	<b>3.2300e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>3.6000e-004</b>	<b>1.0000e-005</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>0.9991</b>	<b>0.9991</b>	<b>2.0000e-005</b>	<b>3.0000e-005</b>	<b>1.0073</b>

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

**3.10 Demo/Site Prep - Phase Strand Area - 2025**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9500e-003	0.0785	0.1089	2.3000e-004		3.1000e-003	3.1000e-003		3.0100e-003	3.0100e-003	0.0000	19.5127	19.5127	3.2100e-003	0.0000	19.5929
<b>Total</b>	<b>9.9500e-003</b>	<b>0.0785</b>	<b>0.1089</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>3.1000e-003</b>	<b>3.1000e-003</b>	<b>0.0000</b>	<b>3.0100e-003</b>	<b>3.0100e-003</b>	<b>0.0000</b>	<b>19.5127</b>	<b>19.5127</b>	<b>3.2100e-003</b>	<b>0.0000</b>	<b>19.5929</b>

**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	3.8000e-004	2.5000e-004	3.1200e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3100e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	0.9634	0.9634	2.0000e-005	2.0000e-005	0.9714
<b>Total</b>	<b>3.8000e-004</b>	<b>2.5000e-004</b>	<b>3.1200e-003</b>	<b>1.0000e-005</b>	<b>1.3000e-003</b>	<b>1.0000e-005</b>	<b>1.3100e-003</b>	<b>3.5000e-004</b>	<b>1.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>0.9634</b>	<b>0.9634</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.9714</b>

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

**3.10 Demo/Site Prep - Phase Strand Area - 2025**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9500e-003	0.0785	0.1089	2.3000e-004		3.1000e-003	3.1000e-003		3.0100e-003	3.0100e-003	0.0000	19.5127	19.5127	3.2100e-003	0.0000	19.5929
<b>Total</b>	<b>9.9500e-003</b>	<b>0.0785</b>	<b>0.1089</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>3.1000e-003</b>	<b>3.1000e-003</b>	<b>0.0000</b>	<b>3.0100e-003</b>	<b>3.0100e-003</b>	<b>0.0000</b>	<b>19.5127</b>	<b>19.5127</b>	<b>3.2100e-003</b>	<b>0.0000</b>	<b>19.5929</b>

**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	3.8000e-004	2.5000e-004	3.1200e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3100e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	0.9634	0.9634	2.0000e-005	2.0000e-005	0.9714
<b>Total</b>	<b>3.8000e-004</b>	<b>2.5000e-004</b>	<b>3.1200e-003</b>	<b>1.0000e-005</b>	<b>1.3000e-003</b>	<b>1.0000e-005</b>	<b>1.3100e-003</b>	<b>3.5000e-004</b>	<b>1.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>0.9634</b>	<b>0.9634</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.9714</b>

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

**3.11 Pipeline Install (trench) - Phase Strand Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.0000e-005	0.0000	7.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0220	0.1876	0.2348	4.6000e-004		8.3300e-003	8.3300e-003		7.8900e-003	7.8900e-003	0.0000	39.9115	39.9115	8.8600e-003	0.0000	40.1329
<b>Total</b>	<b>0.0220</b>	<b>0.1876</b>	<b>0.2348</b>	<b>4.6000e-004</b>	<b>7.0000e-005</b>	<b>8.3300e-003</b>	<b>8.4000e-003</b>	<b>1.0000e-005</b>	<b>7.8900e-003</b>	<b>7.9000e-003</b>	<b>0.0000</b>	<b>39.9115</b>	<b>39.9115</b>	<b>8.8600e-003</b>	<b>0.0000</b>	<b>40.1329</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	7.3700e-003	1.5400e-003	3.0000e-005	7.9000e-004	6.0000e-005	8.5000e-004	2.2000e-004	6.0000e-005	2.8000e-004	0.0000	2.7488	2.7488	1.0000e-004	4.4000e-004	2.8813
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8000e-004	6.4000e-004	7.9600e-003	3.0000e-005	3.3200e-003	1.0000e-005	3.3400e-003	8.8000e-004	1.0000e-005	9.0000e-004	0.0000	2.4620	2.4620	6.0000e-005	6.0000e-005	2.4824
<b>Total</b>	<b>1.1000e-003</b>	<b>8.0100e-003</b>	<b>9.5000e-003</b>	<b>6.0000e-005</b>	<b>4.1100e-003</b>	<b>7.0000e-005</b>	<b>4.1900e-003</b>	<b>1.1000e-003</b>	<b>7.0000e-005</b>	<b>1.1800e-003</b>	<b>0.0000</b>	<b>5.2108</b>	<b>5.2108</b>	<b>1.6000e-004</b>	<b>5.0000e-004</b>	<b>5.3637</b>

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

**3.11 Pipeline Install (trench) - Phase Strand Area - 2025**

**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					3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0220	0.1876	0.2348	4.6000e-004		8.3300e-003	8.3300e-003		7.8900e-003	7.8900e-003	0.0000	39.9115	39.9115	8.8600e-003	0.0000	40.1329
<b>Total</b>	<b>0.0220</b>	<b>0.1876</b>	<b>0.2348</b>	<b>4.6000e-004</b>	<b>3.0000e-005</b>	<b>8.3300e-003</b>	<b>8.3600e-003</b>	<b>0.0000</b>	<b>7.8900e-003</b>	<b>7.8900e-003</b>	<b>0.0000</b>	<b>39.9115</b>	<b>39.9115</b>	<b>8.8600e-003</b>	<b>0.0000</b>	<b>40.1329</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.2000e-004	7.3700e-003	1.5400e-003	3.0000e-005	7.9000e-004	6.0000e-005	8.5000e-004	2.2000e-004	6.0000e-005	2.8000e-004	0.0000	2.7488	2.7488	1.0000e-004	4.4000e-004	2.8813
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8000e-004	6.4000e-004	7.9600e-003	3.0000e-005	3.3200e-003	1.0000e-005	3.3400e-003	8.8000e-004	1.0000e-005	9.0000e-004	0.0000	2.4620	2.4620	6.0000e-005	6.0000e-005	2.4824
<b>Total</b>	<b>1.1000e-003</b>	<b>8.0100e-003</b>	<b>9.5000e-003</b>	<b>6.0000e-005</b>	<b>4.1100e-003</b>	<b>7.0000e-005</b>	<b>4.1900e-003</b>	<b>1.1000e-003</b>	<b>7.0000e-005</b>	<b>1.1800e-003</b>	<b>0.0000</b>	<b>5.2108</b>	<b>5.2108</b>	<b>1.6000e-004</b>	<b>5.0000e-004</b>	<b>5.3637</b>



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

**3.12 Paving/Ground Restoration - Phase Strand Area - 2025**

**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	8.1900e-003	0.0671	0.0992	2.0000e-004		2.8000e-003	2.8000e-003		2.6900e-003	2.6900e-003	0.0000	16.8945	16.8945	3.3200e-003	0.0000	16.9776
Paving	2.2900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0105</b>	<b>0.0671</b>	<b>0.0992</b>	<b>2.0000e-004</b>		<b>2.8000e-003</b>	<b>2.8000e-003</b>		<b>2.6900e-003</b>	<b>2.6900e-003</b>	<b>0.0000</b>	<b>16.8945</b>	<b>16.8945</b>	<b>3.3200e-003</b>	<b>0.0000</b>	<b>16.9776</b>

**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	4.0000e-004	2.6000e-004	3.2300e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.6000e-004	0.0000	0.9991	0.9991	2.0000e-005	3.0000e-005	1.0073
<b>Total</b>	<b>4.0000e-004</b>	<b>2.6000e-004</b>	<b>3.2300e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>3.6000e-004</b>	<b>1.0000e-005</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>0.9991</b>	<b>0.9991</b>	<b>2.0000e-005</b>	<b>3.0000e-005</b>	<b>1.0073</b>

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

**3.12 Paving/Ground Restoration - Phase Strand Area - 2025**

**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	8.1900e-003	0.0671	0.0992	2.0000e-004		2.8000e-003	2.8000e-003		2.6900e-003	2.6900e-003	0.0000	16.8945	16.8945	3.3200e-003	0.0000	16.9776
Paving	2.2900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0105</b>	<b>0.0671</b>	<b>0.0992</b>	<b>2.0000e-004</b>		<b>2.8000e-003</b>	<b>2.8000e-003</b>		<b>2.6900e-003</b>	<b>2.6900e-003</b>	<b>0.0000</b>	<b>16.8945</b>	<b>16.8945</b>	<b>3.3200e-003</b>	<b>0.0000</b>	<b>16.9776</b>

**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	4.0000e-004	2.6000e-004	3.2300e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.6000e-004	0.0000	0.9991	0.9991	2.0000e-005	3.0000e-005	1.0073
<b>Total</b>	<b>4.0000e-004</b>	<b>2.6000e-004</b>	<b>3.2300e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>3.6000e-004</b>	<b>1.0000e-005</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>0.9991</b>	<b>0.9991</b>	<b>2.0000e-005</b>	<b>3.0000e-005</b>	<b>1.0073</b>

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

**3.13 Demo/Site Prep - Phase East Area - 2025**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.5400e-003	0.0689	0.0924	2.0000e-004		2.6600e-003	2.6600e-003		2.5700e-003	2.5700e-003	0.0000	17.1940	17.1940	3.0900e-003	0.0000	17.2714
<b>Total</b>	<b>8.5400e-003</b>	<b>0.0689</b>	<b>0.0924</b>	<b>2.0000e-004</b>	<b>0.0000</b>	<b>2.6600e-003</b>	<b>2.6600e-003</b>	<b>0.0000</b>	<b>2.5700e-003</b>	<b>2.5700e-003</b>	<b>0.0000</b>	<b>17.1940</b>	<b>17.1940</b>	<b>3.0900e-003</b>	<b>0.0000</b>	<b>17.2714</b>

**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	3.8000e-004	2.5000e-004	3.1200e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3100e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	0.9634	0.9634	2.0000e-005	2.0000e-005	0.9714
<b>Total</b>	<b>3.8000e-004</b>	<b>2.5000e-004</b>	<b>3.1200e-003</b>	<b>1.0000e-005</b>	<b>1.3000e-003</b>	<b>1.0000e-005</b>	<b>1.3100e-003</b>	<b>3.5000e-004</b>	<b>1.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>0.9634</b>	<b>0.9634</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.9714</b>

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

**3.13 Demo/Site Prep - Phase East Area - 2025**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.5400e-003	0.0689	0.0924	2.0000e-004		2.6600e-003	2.6600e-003		2.5700e-003	2.5700e-003	0.0000	17.1940	17.1940	3.0900e-003	0.0000	17.2714
<b>Total</b>	<b>8.5400e-003</b>	<b>0.0689</b>	<b>0.0924</b>	<b>2.0000e-004</b>	<b>0.0000</b>	<b>2.6600e-003</b>	<b>2.6600e-003</b>	<b>0.0000</b>	<b>2.5700e-003</b>	<b>2.5700e-003</b>	<b>0.0000</b>	<b>17.1940</b>	<b>17.1940</b>	<b>3.0900e-003</b>	<b>0.0000</b>	<b>17.2714</b>

**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	3.8000e-004	2.5000e-004	3.1200e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3100e-003	3.5000e-004	1.0000e-005	3.5000e-004	0.0000	0.9634	0.9634	2.0000e-005	2.0000e-005	0.9714
<b>Total</b>	<b>3.8000e-004</b>	<b>2.5000e-004</b>	<b>3.1200e-003</b>	<b>1.0000e-005</b>	<b>1.3000e-003</b>	<b>1.0000e-005</b>	<b>1.3100e-003</b>	<b>3.5000e-004</b>	<b>1.0000e-005</b>	<b>3.5000e-004</b>	<b>0.0000</b>	<b>0.9634</b>	<b>0.9634</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.9714</b>

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

**3.14 Pipeline Install (trench) - Phase East Area - 2025**

**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					1.4000e-004	0.0000	1.4000e-004	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0220	0.1876	0.2348	4.6000e-004		8.3300e-003	8.3300e-003		7.8900e-003	7.8900e-003	0.0000	39.9115	39.9115	8.8600e-003	0.0000	40.1329
<b>Total</b>	<b>0.0220</b>	<b>0.1876</b>	<b>0.2348</b>	<b>4.6000e-004</b>	<b>1.4000e-004</b>	<b>8.3300e-003</b>	<b>8.4700e-003</b>	<b>2.0000e-005</b>	<b>7.8900e-003</b>	<b>7.9100e-003</b>	<b>0.0000</b>	<b>39.9115</b>	<b>39.9115</b>	<b>8.8600e-003</b>	<b>0.0000</b>	<b>40.1329</b>

**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	2.5000e-004	0.0154	3.2100e-003	6.0000e-005	1.6600e-003	1.2000e-004	1.7800e-003	4.6000e-004	1.2000e-004	5.7000e-004	0.0000	5.7340	5.7340	2.2000e-004	9.1000e-004	6.0105
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8000e-004	6.4000e-004	7.9600e-003	3.0000e-005	3.3200e-003	1.0000e-005	3.3400e-003	8.8000e-004	1.0000e-005	9.0000e-004	0.0000	2.4620	2.4620	6.0000e-005	6.0000e-005	2.4824
<b>Total</b>	<b>1.2300e-003</b>	<b>0.0160</b>	<b>0.0112</b>	<b>9.0000e-005</b>	<b>4.9800e-003</b>	<b>1.3000e-004</b>	<b>5.1200e-003</b>	<b>1.3400e-003</b>	<b>1.3000e-004</b>	<b>1.4700e-003</b>	<b>0.0000</b>	<b>8.1960</b>	<b>8.1960</b>	<b>2.8000e-004</b>	<b>9.7000e-004</b>	<b>8.4929</b>

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

**3.14 Pipeline Install (trench) - Phase East Area - 2025**

**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					6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0220	0.1876	0.2348	4.6000e-004		8.3300e-003	8.3300e-003		7.8900e-003	7.8900e-003	0.0000	39.9115	39.9115	8.8600e-003	0.0000	40.1329
<b>Total</b>	<b>0.0220</b>	<b>0.1876</b>	<b>0.2348</b>	<b>4.6000e-004</b>	<b>6.0000e-005</b>	<b>8.3300e-003</b>	<b>8.3900e-003</b>	<b>1.0000e-005</b>	<b>7.8900e-003</b>	<b>7.9000e-003</b>	<b>0.0000</b>	<b>39.9115</b>	<b>39.9115</b>	<b>8.8600e-003</b>	<b>0.0000</b>	<b>40.1329</b>

**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	2.5000e-004	0.0154	3.2100e-003	6.0000e-005	1.6600e-003	1.2000e-004	1.7800e-003	4.6000e-004	1.2000e-004	5.7000e-004	0.0000	5.7340	5.7340	2.2000e-004	9.1000e-004	6.0105
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.8000e-004	6.4000e-004	7.9600e-003	3.0000e-005	3.3200e-003	1.0000e-005	3.3400e-003	8.8000e-004	1.0000e-005	9.0000e-004	0.0000	2.4620	2.4620	6.0000e-005	6.0000e-005	2.4824
<b>Total</b>	<b>1.2300e-003</b>	<b>0.0160</b>	<b>0.0112</b>	<b>9.0000e-005</b>	<b>4.9800e-003</b>	<b>1.3000e-004</b>	<b>5.1200e-003</b>	<b>1.3400e-003</b>	<b>1.3000e-004</b>	<b>1.4700e-003</b>	<b>0.0000</b>	<b>8.1960</b>	<b>8.1960</b>	<b>2.8000e-004</b>	<b>9.7000e-004</b>	<b>8.4929</b>

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

**3.15 Paving/Ground Restoration - Phase East Area - 2025**

**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	8.1900e-003	0.0671	0.0992	2.0000e-004		2.8000e-003	2.8000e-003		2.6900e-003	2.6900e-003	0.0000	16.8945	16.8945	3.3200e-003	0.0000	16.9776
Paving	2.2900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0105</b>	<b>0.0671</b>	<b>0.0992</b>	<b>2.0000e-004</b>		<b>2.8000e-003</b>	<b>2.8000e-003</b>		<b>2.6900e-003</b>	<b>2.6900e-003</b>	<b>0.0000</b>	<b>16.8945</b>	<b>16.8945</b>	<b>3.3200e-003</b>	<b>0.0000</b>	<b>16.9776</b>

**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	4.0000e-004	2.6000e-004	3.2300e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.6000e-004	0.0000	0.9991	0.9991	2.0000e-005	3.0000e-005	1.0073
<b>Total</b>	<b>4.0000e-004</b>	<b>2.6000e-004</b>	<b>3.2300e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>3.6000e-004</b>	<b>1.0000e-005</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>0.9991</b>	<b>0.9991</b>	<b>2.0000e-005</b>	<b>3.0000e-005</b>	<b>1.0073</b>

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

**3.15 Paving/Ground Restoration - Phase East Area - 2025**

**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	8.1900e-003	0.0671	0.0992	2.0000e-004		2.8000e-003	2.8000e-003		2.6900e-003	2.6900e-003	0.0000	16.8945	16.8945	3.3200e-003	0.0000	16.9776
Paving	2.2900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0105</b>	<b>0.0671</b>	<b>0.0992</b>	<b>2.0000e-004</b>		<b>2.8000e-003</b>	<b>2.8000e-003</b>		<b>2.6900e-003</b>	<b>2.6900e-003</b>	<b>0.0000</b>	<b>16.8945</b>	<b>16.8945</b>	<b>3.3200e-003</b>	<b>0.0000</b>	<b>16.9776</b>

**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	4.0000e-004	2.6000e-004	3.2300e-003	1.0000e-005	1.3500e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.6000e-004	0.0000	0.9991	0.9991	2.0000e-005	3.0000e-005	1.0073
<b>Total</b>	<b>4.0000e-004</b>	<b>2.6000e-004</b>	<b>3.2300e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>1.0000e-005</b>	<b>1.3500e-003</b>	<b>3.6000e-004</b>	<b>1.0000e-005</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>0.9991</b>	<b>0.9991</b>	<b>2.0000e-005</b>	<b>3.0000e-005</b>	<b>1.0073</b>



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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive 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	1.5000e-004	7.0000e-005	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0155	0.0155	1.0000e-005	1.0000e-005	0.0174
Unmitigated	1.5000e-004	7.0000e-005	5.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0155	0.0155	1.0000e-005	1.0000e-005	0.0174

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.76	0.00	0.00	8	8
Total	0.76	0.00	0.00	8	8

**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
Other Asphalt Surfaces	0.04	5.00	5.00	100.00	0.00	0.00	100	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.492178	0.057147	0.202572	0.146456	0.036760	0.009141	0.008293	0.005994	0.000937	0.000362	0.032672	0.000959	0.006529





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

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.6300e-003	1.0000e-005	1.2800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4900e-003	2.4900e-003	1.0000e-005	0.0000	2.6600e-003
Unmitigated	6.6300e-003	1.0000e-005	1.2800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4900e-003	2.4900e-003	1.0000e-005	0.0000	2.6600e-003

**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	1.5900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.9200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2000e-004	1.0000e-005	1.2800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4900e-003	2.4900e-003	1.0000e-005	0.0000	2.6600e-003
<b>Total</b>	<b>6.6300e-003</b>	<b>1.0000e-005</b>	<b>1.2800e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.4900e-003</b>	<b>2.4900e-003</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>2.6600e-003</b>

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

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.5900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.9200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.2000e-004	1.0000e-005	1.2800e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.4900e-003	2.4900e-003	1.0000e-005	0.0000	2.6600e-003
<b>Total</b>	<b>6.6300e-003</b>	<b>1.0000e-005</b>	<b>1.2800e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>2.4900e-003</b>	<b>2.4900e-003</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>2.6600e-003</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

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

**7.2 Water by Land Use**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000



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

**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**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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Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**Waterline Improvement Project - Phase Central Area\_AQ**

**San Luis Obispo County APCD Air District, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	18.38	1000sqft	0.42	18,375.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.2	<b>Precipitation Freq (Days)</b>	44
<b>Climate Zone</b>	4			<b>Operational Year</b>	2025
<b>Utility Company</b>	Pacific Gas and Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	203.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Based on applicant provided data

Construction Phase - Construction schedule provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Grading - Data provided by the applicant

Vehicle Trips - Assumed one worker trip per year for one day. Vehicle Miles estimated by the linear pipeline length multiplied by two for return trips

Construction Off-road Equipment Mitigation - Based on SLOAPCD Fugitive Dust Mitigation Measures: Expanded List

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	15.00
tblGrading	MaterialExported	0.00	683.00
tblGrading	MaterialImported	0.00	547.00
tblLandUse	LandUseSquareFeet	18,380.00	18,375.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType	Cement and Mortar Mixers	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblVehicleTrips	CW_TL	13.00	0.02
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	0.01

**2.0 Emissions Summary**

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Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.7800e-003	2.0000e-005	1.8700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.0200e-003	4.0200e-003	1.0000e-005		4.2800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	3.1000e-004	1.1000e-004	9.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0288	0.0288	2.0000e-005	1.0000e-005	0.0324
<b>Total</b>	<b>9.0900e-003</b>	<b>1.3000e-004</b>	<b>2.7700e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.0328</b>	<b>0.0328</b>	<b>3.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0367</b>

**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	8.7800e-003	2.0000e-005	1.8700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.0200e-003	4.0200e-003	1.0000e-005		4.2800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	3.1000e-004	1.1000e-004	9.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0288	0.0288	2.0000e-005	1.0000e-005	0.0324
<b>Total</b>	<b>9.0900e-003</b>	<b>1.3000e-004</b>	<b>2.7700e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.0328</b>	<b>0.0328</b>	<b>3.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0367</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

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

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demo/Site Prep - Phase Central Area	Site Preparation	3/26/2025	4/15/2025	5	15	
2	Pipeline Install (trenchless) - Phase Central Area	Grading	4/16/2025	4/22/2025	5	5	
3	Pipeline Install (trench) - Phase Central Area	Grading	4/23/2025	6/3/2025	5	30	
4	Paving/Ground Restoration - Phase Central Area	Paving	6/4/2025	6/17/2025	5	10	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0.42**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demo/Site Prep - Phase Central Area	Air Compressors	1	8.00	78	0.48
Demo/Site Prep - Phase Central Area	Concrete/Industrial Saws	1	8.00	81	0.73
Demo/Site Prep - Phase Central Area	Generator Sets	1	8.00	84	0.74
Demo/Site Prep - Phase Central Area	Graders	0	8.00	187	0.41
Demo/Site Prep - Phase Central Area	Off-Highway Trucks	1	2.00	402	0.38
Demo/Site Prep - Phase Central Area	Rubber Tired Loaders	1	8.00	203	0.36
Demo/Site Prep - Phase Central Area	Signal Boards	1	8.00	6	0.82

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

Demo/Site Prep - Phase Central Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Install (trenchless) - Phase Central Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trenchless) - Phase Central Area	Bore/Drill Rigs	1	8.00	221	0.50
Pipeline Install (trenchless) - Phase Central Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trenchless) - Phase Central Area	Graders	0	6.00	187	0.41
Pipeline Install (trenchless) - Phase Central Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trenchless) - Phase Central Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trenchless) - Phase Central Area	Rollers	1	8.00	80	0.38
Pipeline Install (trenchless) - Phase Central Area	Rubber Tired Dozers	0	6.00	247	0.40
Pipeline Install (trenchless) - Phase Central Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trenchless) - Phase Central Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trenchless) - Phase Central Area	Welders	1	8.00	46	0.45
Pipeline Install (trench) - Phase Central Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trench) - Phase Central Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trench) - Phase Central Area	Graders	0	6.00	187	0.41
Pipeline Install (trench) - Phase Central Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trench) - Phase Central Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trench) - Phase Central Area	Rough Terrain Forklifts	1	8.00	100	0.40
Pipeline Install (trench) - Phase Central Area	Rubber Tired Dozers	0	6.00	247	0.40
Pipeline Install (trench) - Phase Central Area	Rubber Tired Loaders	1	8.00	203	0.36
Pipeline Install (trench) - Phase Central Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trench) - Phase Central Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trench) - Phase Central Area	Trenchers	1	8.00	78	0.50
Paving/Ground Restoration - Phase Central Area	Air Compressors	1	8.00	78	0.48



Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

Paving/Ground Restoration - Phase Central Area	Off-Highway Trucks	1	8.00	402	0.38
Paving/Ground Restoration - Phase Central Area	Concrete/Industrial Saws	1	8.00	81	0.73
Paving/Ground Restoration - Phase Central Area	Generator Sets	1	8.00	84	0.74
Paving/Ground Restoration - Phase Central Area	Off-Highway Trucks	1	2.00	402	0.38
Paving/Ground Restoration - Phase Central Area	Pavers	1	7.00	130	0.42
Paving/Ground Restoration - Phase Central Area	Paving Equipment	1	8.00	132	0.36
Paving/Ground Restoration - Phase Central Area	Plate Compactors	1	8.00	8	0.43
Paving/Ground Restoration - Phase Central Area	Rollers	0	7.00	80	0.38
Paving/Ground Restoration - Phase Central Area	Signal Boards	1	8.00	6	0.82
Paving/Ground Restoration - Phase Central Area	Surfacing Equipment	1	8.00	263	0.30
Paving/Ground Restoration - Phase Central Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37

**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
Demo/Site Prep - Phase Central Area	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trenchless) - Phase C	9	23.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trench) - Phase Centr	9	23.00	0.00	154.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving/Ground Restoration - Phase C	11	28.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.2 Demo/Site Prep - Phase Central Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016		2,867.874 4	2,867.874 4	0.4717		2,879.667 3
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>		<b>2,867.874 4</b>	<b>2,867.874 4</b>	<b>0.4717</b>		<b>2,879.667 3</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0301	0.4268	1.4100e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		146.7008	146.7008	3.2200e-003	3.4100e-003	147.7983
<b>Total</b>	<b>0.0505</b>	<b>0.0301</b>	<b>0.4268</b>	<b>1.4100e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>146.7008</b>	<b>146.7008</b>	<b>3.2200e-003</b>	<b>3.4100e-003</b>	<b>147.7983</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.2 Demo/Site Prep - Phase Central Area - 2025**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016	0.0000	2,867.874 4	2,867.874 4	0.4717		2,879.667 3
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>	<b>0.0000</b>	<b>2,867.874 4</b>	<b>2,867.874 4</b>	<b>0.4717</b>		<b>2,879.667 3</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0301	0.4268	1.4100e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		146.7008	146.7008	3.2200e-003	3.4100e-003	147.7983
<b>Total</b>	<b>0.0505</b>	<b>0.0301</b>	<b>0.4268</b>	<b>1.4100e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>146.7008</b>	<b>146.7008</b>	<b>3.2200e-003</b>	<b>3.4100e-003</b>	<b>147.7983</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.3 Pipeline Install (trenchless) - Phase Central Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3927	11.0687	14.8651	0.0324		0.4354	0.4354		0.4189	0.4189		3,045.099 1	3,045.099 1	0.6397		3,061.091 2
<b>Total</b>	<b>1.3927</b>	<b>11.0687</b>	<b>14.8651</b>	<b>0.0324</b>	<b>0.0000</b>	<b>0.4354</b>	<b>0.4354</b>	<b>0.0000</b>	<b>0.4189</b>	<b>0.4189</b>		<b>3,045.099 1</b>	<b>3,045.099 1</b>	<b>0.6397</b>		<b>3,061.091 2</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0646	0.0385	0.5453	1.8000e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		187.4510	187.4510	4.1100e-003	4.3600e-003	188.8533
<b>Total</b>	<b>0.0646</b>	<b>0.0385</b>	<b>0.5453</b>	<b>1.8000e-003</b>	<b>0.2274</b>	<b>9.9000e-004</b>	<b>0.2284</b>	<b>0.0603</b>	<b>9.1000e-004</b>	<b>0.0612</b>		<b>187.4510</b>	<b>187.4510</b>	<b>4.1100e-003</b>	<b>4.3600e-003</b>	<b>188.8533</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.3 Pipeline Install (trenchless) - Phase Central Area - 2025**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3927	11.0687	14.8651	0.0324		0.4354	0.4354		0.4189	0.4189	0.0000	3,045.099 1	3,045.099 1	0.6397		3,061.091 2
<b>Total</b>	<b>1.3927</b>	<b>11.0687</b>	<b>14.8651</b>	<b>0.0324</b>	<b>0.0000</b>	<b>0.4354</b>	<b>0.4354</b>	<b>0.0000</b>	<b>0.4189</b>	<b>0.4189</b>	<b>0.0000</b>	<b>3,045.099 1</b>	<b>3,045.099 1</b>	<b>0.6397</b>		<b>3,061.091 2</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0646	0.0385	0.5453	1.8000e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		187.4510	187.4510	4.1100e-003	4.3600e-003	188.8533
<b>Total</b>	<b>0.0646</b>	<b>0.0385</b>	<b>0.5453</b>	<b>1.8000e-003</b>	<b>0.2274</b>	<b>9.9000e-004</b>	<b>0.2284</b>	<b>0.0603</b>	<b>9.1000e-004</b>	<b>0.0612</b>		<b>187.4510</b>	<b>187.4510</b>	<b>4.1100e-003</b>	<b>4.3600e-003</b>	<b>188.8533</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.4 Pipeline Install (trench) - Phase Central Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.5500e-003	0.0000	7.5500e-003	1.1400e-003	0.0000	1.1400e-003			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259		2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>7.5500e-003</b>	<b>0.5553</b>	<b>0.5628</b>	<b>1.1400e-003</b>	<b>0.5259</b>	<b>0.5270</b>		<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>

**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	0.0133	0.7884	0.1688	3.0600e-003	0.0898	6.5400e-003	0.0963	0.0246	6.2500e-003	0.0309		334.3756	334.3756	0.0127	0.0530	350.4967
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0646	0.0385	0.5453	1.8000e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		187.4510	187.4510	4.1100e-003	4.3600e-003	188.8533
<b>Total</b>	<b>0.0779</b>	<b>0.8269</b>	<b>0.7142</b>	<b>4.8600e-003</b>	<b>0.3172</b>	<b>7.5300e-003</b>	<b>0.3247</b>	<b>0.0849</b>	<b>7.1600e-003</b>	<b>0.0921</b>		<b>521.8266</b>	<b>521.8266</b>	<b>0.0169</b>	<b>0.0574</b>	<b>539.3500</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.4 Pipeline Install (trench) - Phase Central Area - 2025**

**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					3.4000e-003	0.0000	3.4000e-003	5.1000e-004	0.0000	5.1000e-004			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259	0.0000	2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>3.4000e-003</b>	<b>0.5553</b>	<b>0.5587</b>	<b>5.1000e-004</b>	<b>0.5259</b>	<b>0.5264</b>	<b>0.0000</b>	<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>

**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	0.0133	0.7884	0.1688	3.0600e-003	0.0898	6.5400e-003	0.0963	0.0246	6.2500e-003	0.0309		334.3756	334.3756	0.0127	0.0530	350.4967
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0646	0.0385	0.5453	1.8000e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		187.4510	187.4510	4.1100e-003	4.3600e-003	188.8533
<b>Total</b>	<b>0.0779</b>	<b>0.8269</b>	<b>0.7142</b>	<b>4.8600e-003</b>	<b>0.3172</b>	<b>7.5300e-003</b>	<b>0.3247</b>	<b>0.0849</b>	<b>7.1600e-003</b>	<b>0.0921</b>		<b>521.8266</b>	<b>521.8266</b>	<b>0.0169</b>	<b>0.0574</b>	<b>539.3500</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.5 Paving/Ground Restoration - Phase Central Area - 2025**

**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	2.0786	16.0642	22.8832	0.0523		0.6549	0.6549		0.6249	0.6249		4,991.9108	4,991.9108	1.1511		5,020.6882
Paving	0.1100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.1887</b>	<b>16.0642</b>	<b>22.8832</b>	<b>0.0523</b>		<b>0.6549</b>	<b>0.6549</b>		<b>0.6249</b>	<b>0.6249</b>		<b>4,991.9108</b>	<b>4,991.9108</b>	<b>1.1511</b>		<b>5,020.6882</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0786	0.0469	0.6639	2.1900e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		228.2012	228.2012	5.0100e-003	5.3100e-003	229.9084
<b>Total</b>	<b>0.0786</b>	<b>0.0469</b>	<b>0.6639</b>	<b>2.1900e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>228.2012</b>	<b>228.2012</b>	<b>5.0100e-003</b>	<b>5.3100e-003</b>	<b>229.9084</b>



Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.5 Paving/Ground Restoration - Phase Central Area - 2025**

**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	2.0786	16.0642	22.8832	0.0523		0.6549	0.6549		0.6249	0.6249	0.0000	4,991.9108	4,991.9108	1.1511		5,020.6882
Paving	0.1100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.1887</b>	<b>16.0642</b>	<b>22.8832</b>	<b>0.0523</b>		<b>0.6549</b>	<b>0.6549</b>		<b>0.6249</b>	<b>0.6249</b>	<b>0.0000</b>	<b>4,991.9108</b>	<b>4,991.9108</b>	<b>1.1511</b>		<b>5,020.6882</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0786	0.0469	0.6639	2.1900e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		228.2012	228.2012	5.0100e-003	5.3100e-003	229.9084
<b>Total</b>	<b>0.0786</b>	<b>0.0469</b>	<b>0.6639</b>	<b>2.1900e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>228.2012</b>	<b>228.2012</b>	<b>5.0100e-003</b>	<b>5.3100e-003</b>	<b>229.9084</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.1000e-004	1.1000e-004	9.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0288	0.0288	2.0000e-005	1.0000e-005	0.0324
Unmitigated	3.1000e-004	1.1000e-004	9.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0288	0.0288	2.0000e-005	1.0000e-005	0.0324

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.18	0.00	0.00	1	1
Total	0.18	0.00	0.00	1	1

**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
Other Asphalt Surfaces	0.02	5.00	5.00	100.00	0.00	0.00	100	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.492178	0.057147	0.202572	0.146456	0.036760	0.009141	0.008293	0.005994	0.000937	0.000362	0.032672	0.000959	0.006529

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**5.2 Energy by Land Use - NaturalGas**

Mitigated

	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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive 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	8.7800e-003	2.0000e-005	1.8700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.0200e-003	4.0200e-003	1.0000e-005		4.2800e-003
Unmitigated	8.7800e-003	2.0000e-005	1.8700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.0200e-003	4.0200e-003	1.0000e-005		4.2800e-003

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**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	2.1000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005			4.0200e-003	4.0200e-003	1.0000e-005	4.2800e-003
<b>Total</b>	<b>8.7800e-003</b>	<b>2.0000e-005</b>	<b>1.8700e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>			<b>4.0200e-003</b>	<b>4.0200e-003</b>	<b>1.0000e-005</b>	<b>4.2800e-003</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005			4.0200e-003	4.0200e-003	1.0000e-005	4.2800e-003
<b>Total</b>	<b>8.7800e-003</b>	<b>2.0000e-005</b>	<b>1.8700e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>			<b>4.0200e-003</b>	<b>4.0200e-003</b>	<b>1.0000e-005</b>	<b>4.2800e-003</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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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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Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**Waterline Improvement Project - Phase Central Area\_AQ**

**San Luis Obispo County APCD Air District, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	18.38	1000sqft	0.42	18,375.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.2	<b>Precipitation Freq (Days)</b>	44
<b>Climate Zone</b>	4			<b>Operational Year</b>	2025
<b>Utility Company</b>	Pacific Gas and Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	203.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Based on applicant provided data

Construction Phase - Construction schedule provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Grading - Data provided by the applicant

Vehicle Trips - Assumed one worker trip per year for one day. Vehicle Miles estimated by the linear pipeline length multiplied by two for return trips

Construction Off-road Equipment Mitigation - Based on SLOAPCD Fugitive Dust Mitigation Measures: Expanded List



Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	15.00
tblGrading	MaterialExported	0.00	683.00
tblGrading	MaterialImported	0.00	547.00
tblLandUse	LandUseSquareFeet	18,380.00	18,375.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType	Cement and Mortar Mixers	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblVehicleTrips	CW_TL	13.00	0.02
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	0.01

**2.0 Emissions Summary**

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Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.7800e-003	2.0000e-005	1.8700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.0200e-003	4.0200e-003	1.0000e-005		4.2800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.9000e-004	1.3000e-004	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0292	0.0292	3.0000e-005	1.0000e-005	0.0333
<b>Total</b>	<b>9.0700e-003</b>	<b>1.5000e-004</b>	<b>3.0200e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.0332</b>	<b>0.0332</b>	<b>4.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0376</b>

**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	8.7800e-003	2.0000e-005	1.8700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.0200e-003	4.0200e-003	1.0000e-005		4.2800e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	2.9000e-004	1.3000e-004	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0292	0.0292	3.0000e-005	1.0000e-005	0.0333
<b>Total</b>	<b>9.0700e-003</b>	<b>1.5000e-004</b>	<b>3.0200e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.0332</b>	<b>0.0332</b>	<b>4.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0376</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

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

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demo/Site Prep - Phase Central Area	Site Preparation	3/26/2025	4/15/2025	5	15	
2	Pipeline Install (trenchless) - Phase Central Area	Grading	4/16/2025	4/22/2025	5	5	
3	Pipeline Install (trench) - Phase Central Area	Grading	4/23/2025	6/3/2025	5	30	
4	Paving/Ground Restoration - Phase Central Area	Paving	6/4/2025	6/17/2025	5	10	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0.42**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demo/Site Prep - Phase Central Area	Air Compressors	1	8.00	78	0.48
Demo/Site Prep - Phase Central Area	Concrete/Industrial Saws	1	8.00	81	0.73
Demo/Site Prep - Phase Central Area	Generator Sets	1	8.00	84	0.74
Demo/Site Prep - Phase Central Area	Graders	0	8.00	187	0.41
Demo/Site Prep - Phase Central Area	Off-Highway Trucks	1	2.00	402	0.38
Demo/Site Prep - Phase Central Area	Rubber Tired Loaders	1	8.00	203	0.36
Demo/Site Prep - Phase Central Area	Signal Boards	1	8.00	6	0.82

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

Demo/Site Prep - Phase Central Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Install (trenchless) - Phase Central Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trenchless) - Phase Central Area	Bore/Drill Rigs	1	8.00	221	0.50
Pipeline Install (trenchless) - Phase Central Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trenchless) - Phase Central Area	Graders	0	6.00	187	0.41
Pipeline Install (trenchless) - Phase Central Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trenchless) - Phase Central Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trenchless) - Phase Central Area	Rollers	1	8.00	80	0.38
Pipeline Install (trenchless) - Phase Central Area	Rubber Tired Dozers	0	6.00	247	0.40
Pipeline Install (trenchless) - Phase Central Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trenchless) - Phase Central Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trenchless) - Phase Central Area	Welders	1	8.00	46	0.45
Pipeline Install (trench) - Phase Central Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trench) - Phase Central Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trench) - Phase Central Area	Graders	0	6.00	187	0.41
Pipeline Install (trench) - Phase Central Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trench) - Phase Central Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trench) - Phase Central Area	Rough Terrain Forklifts	1	8.00	100	0.40
Pipeline Install (trench) - Phase Central Area	Rubber Tired Dozers	0	6.00	247	0.40
Pipeline Install (trench) - Phase Central Area	Rubber Tired Loaders	1	8.00	203	0.36
Pipeline Install (trench) - Phase Central Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trench) - Phase Central Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trench) - Phase Central Area	Trenchers	1	8.00	78	0.50
Paving/Ground Restoration - Phase Central Area	Air Compressors	1	8.00	78	0.48

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

Paving/Ground Restoration - Phase Central Area	Off-Highway Trucks	1	8.00	402	0.38
Paving/Ground Restoration - Phase Central Area	Concrete/Industrial Saws	1	8.00	81	0.73
Paving/Ground Restoration - Phase Central Area	Generator Sets	1	8.00	84	0.74
Paving/Ground Restoration - Phase Central Area	Off-Highway Trucks	1	2.00	402	0.38
Paving/Ground Restoration - Phase Central Area	Pavers	1	7.00	130	0.42
Paving/Ground Restoration - Phase Central Area	Paving Equipment	1	8.00	132	0.36
Paving/Ground Restoration - Phase Central Area	Plate Compactors	1	8.00	8	0.43
Paving/Ground Restoration - Phase Central Area	Rollers	0	7.00	80	0.38
Paving/Ground Restoration - Phase Central Area	Signal Boards	1	8.00	6	0.82
Paving/Ground Restoration - Phase Central Area	Surfacing Equipment	1	8.00	263	0.30
Paving/Ground Restoration - Phase Central Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37

**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
Demo/Site Prep - Phase Central Area	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trenchless) - Phase C	9	23.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trench) - Phase Centr	9	23.00	0.00	154.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving/Ground Restoration - Phase C	11	28.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.2 Demo/Site Prep - Phase Central Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016		2,867.874 4	2,867.874 4	0.4717		2,879.667 3
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>		<b>2,867.874 4</b>	<b>2,867.874 4</b>	<b>0.4717</b>		<b>2,879.667 3</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0561	0.0342	0.4182	1.3500e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		140.5842	140.5842	3.4900e-003	3.7100e-003	141.7778
<b>Total</b>	<b>0.0561</b>	<b>0.0342</b>	<b>0.4182</b>	<b>1.3500e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>140.5842</b>	<b>140.5842</b>	<b>3.4900e-003</b>	<b>3.7100e-003</b>	<b>141.7778</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.2 Demo/Site Prep - Phase Central Area - 2025**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016	0.0000	2,867.874 4	2,867.874 4	0.4717		2,879.667 3
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>	<b>0.0000</b>	<b>2,867.874 4</b>	<b>2,867.874 4</b>	<b>0.4717</b>		<b>2,879.667 3</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0561	0.0342	0.4182	1.3500e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		140.5842	140.5842	3.4900e-003	3.7100e-003	141.7778
<b>Total</b>	<b>0.0561</b>	<b>0.0342</b>	<b>0.4182</b>	<b>1.3500e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>140.5842</b>	<b>140.5842</b>	<b>3.4900e-003</b>	<b>3.7100e-003</b>	<b>141.7778</b>



Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.3 Pipeline Install (trenchless) - Phase Central Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3927	11.0687	14.8651	0.0324		0.4354	0.4354		0.4189	0.4189		3,045.099 1	3,045.099 1	0.6397		3,061.091 2
<b>Total</b>	<b>1.3927</b>	<b>11.0687</b>	<b>14.8651</b>	<b>0.0324</b>	<b>0.0000</b>	<b>0.4354</b>	<b>0.4354</b>	<b>0.0000</b>	<b>0.4189</b>	<b>0.4189</b>		<b>3,045.099 1</b>	<b>3,045.099 1</b>	<b>0.6397</b>		<b>3,061.091 2</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0717	0.0437	0.5343	1.7200e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		179.6354	179.6354	4.4500e-003	4.7400e-003	181.1605
<b>Total</b>	<b>0.0717</b>	<b>0.0437</b>	<b>0.5343</b>	<b>1.7200e-003</b>	<b>0.2274</b>	<b>9.9000e-004</b>	<b>0.2284</b>	<b>0.0603</b>	<b>9.1000e-004</b>	<b>0.0612</b>		<b>179.6354</b>	<b>179.6354</b>	<b>4.4500e-003</b>	<b>4.7400e-003</b>	<b>181.1605</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.3 Pipeline Install (trenchless) - Phase Central Area - 2025**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3927	11.0687	14.8651	0.0324		0.4354	0.4354		0.4189	0.4189	0.0000	3,045.099 1	3,045.099 1	0.6397		3,061.091 2
<b>Total</b>	<b>1.3927</b>	<b>11.0687</b>	<b>14.8651</b>	<b>0.0324</b>	<b>0.0000</b>	<b>0.4354</b>	<b>0.4354</b>	<b>0.0000</b>	<b>0.4189</b>	<b>0.4189</b>	<b>0.0000</b>	<b>3,045.099 1</b>	<b>3,045.099 1</b>	<b>0.6397</b>		<b>3,061.091 2</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0717	0.0437	0.5343	1.7200e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		179.6354	179.6354	4.4500e-003	4.7400e-003	181.1605
<b>Total</b>	<b>0.0717</b>	<b>0.0437</b>	<b>0.5343</b>	<b>1.7200e-003</b>	<b>0.2274</b>	<b>9.9000e-004</b>	<b>0.2284</b>	<b>0.0603</b>	<b>9.1000e-004</b>	<b>0.0612</b>		<b>179.6354</b>	<b>179.6354</b>	<b>4.4500e-003</b>	<b>4.7400e-003</b>	<b>181.1605</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.4 Pipeline Install (trench) - Phase Central Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					7.5500e-003	0.0000	7.5500e-003	1.1400e-003	0.0000	1.1400e-003			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259		2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>7.5500e-003</b>	<b>0.5553</b>	<b>0.5628</b>	<b>1.1400e-003</b>	<b>0.5259</b>	<b>0.5270</b>		<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>

**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	0.0127	0.8114	0.1712	3.0600e-003	0.0898	6.5500e-003	0.0963	0.0246	6.2600e-003	0.0309		334.6662	334.6662	0.0127	0.0531	350.8004
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0717	0.0437	0.5343	1.7200e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		179.6354	179.6354	4.4500e-003	4.7400e-003	181.1605
<b>Total</b>	<b>0.0844</b>	<b>0.8551</b>	<b>0.7056</b>	<b>4.7800e-003</b>	<b>0.3172</b>	<b>7.5400e-003</b>	<b>0.3247</b>	<b>0.0849</b>	<b>7.1700e-003</b>	<b>0.0921</b>		<b>514.3016</b>	<b>514.3016</b>	<b>0.0172</b>	<b>0.0578</b>	<b>531.9609</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.4 Pipeline Install (trench) - Phase Central Area - 2025**

**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					3.4000e-003	0.0000	3.4000e-003	5.1000e-004	0.0000	5.1000e-004			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259	0.0000	2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>3.4000e-003</b>	<b>0.5553</b>	<b>0.5587</b>	<b>5.1000e-004</b>	<b>0.5259</b>	<b>0.5264</b>	<b>0.0000</b>	<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>

**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	0.0127	0.8114	0.1712	3.0600e-003	0.0898	6.5500e-003	0.0963	0.0246	6.2600e-003	0.0309		334.6662	334.6662	0.0127	0.0531	350.8004
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0717	0.0437	0.5343	1.7200e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		179.6354	179.6354	4.4500e-003	4.7400e-003	181.1605
<b>Total</b>	<b>0.0844</b>	<b>0.8551</b>	<b>0.7056</b>	<b>4.7800e-003</b>	<b>0.3172</b>	<b>7.5400e-003</b>	<b>0.3247</b>	<b>0.0849</b>	<b>7.1700e-003</b>	<b>0.0921</b>		<b>514.3016</b>	<b>514.3016</b>	<b>0.0172</b>	<b>0.0578</b>	<b>531.9609</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.5 Paving/Ground Restoration - Phase Central Area - 2025**

**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	2.0786	16.0642	22.8832	0.0523		0.6549	0.6549		0.6249	0.6249		4,991.9108	4,991.9108	1.1511		5,020.6882
Paving	0.1100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.1887</b>	<b>16.0642</b>	<b>22.8832</b>	<b>0.0523</b>		<b>0.6549</b>	<b>0.6549</b>		<b>0.6249</b>	<b>0.6249</b>		<b>4,991.9108</b>	<b>4,991.9108</b>	<b>1.1511</b>		<b>5,020.6882</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0873	0.0532	0.6505	2.1000e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		218.6866	218.6866	5.4200e-003	5.7800e-003	220.5432
<b>Total</b>	<b>0.0873</b>	<b>0.0532</b>	<b>0.6505</b>	<b>2.1000e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>218.6866</b>	<b>218.6866</b>	<b>5.4200e-003</b>	<b>5.7800e-003</b>	<b>220.5432</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.5 Paving/Ground Restoration - Phase Central Area - 2025**

**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	2.0786	16.0642	22.8832	0.0523		0.6549	0.6549		0.6249	0.6249	0.0000	4,991.9108	4,991.9108	1.1511		5,020.6882
Paving	0.1100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.1887</b>	<b>16.0642</b>	<b>22.8832</b>	<b>0.0523</b>		<b>0.6549</b>	<b>0.6549</b>		<b>0.6249</b>	<b>0.6249</b>	<b>0.0000</b>	<b>4,991.9108</b>	<b>4,991.9108</b>	<b>1.1511</b>		<b>5,020.6882</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0873	0.0532	0.6505	2.1000e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		218.6866	218.6866	5.4200e-003	5.7800e-003	220.5432
<b>Total</b>	<b>0.0873</b>	<b>0.0532</b>	<b>0.6505</b>	<b>2.1000e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>218.6866</b>	<b>218.6866</b>	<b>5.4200e-003</b>	<b>5.7800e-003</b>	<b>220.5432</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive 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	2.9000e-004	1.3000e-004	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0292	0.0292	3.0000e-005	1.0000e-005	0.0333
Unmitigated	2.9000e-004	1.3000e-004	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0292	0.0292	3.0000e-005	1.0000e-005	0.0333

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.18	0.00	0.00	1	1
Total	0.18	0.00	0.00	1	1

**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
Other Asphalt Surfaces	0.02	5.00	5.00	100.00	0.00	0.00	100	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.492178	0.057147	0.202572	0.146456	0.036760	0.009141	0.008293	0.005994	0.000937	0.000362	0.032672	0.000959	0.006529

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>



Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**5.2 Energy by Land Use - NaturalGas**

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive 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	8.7800e-003	2.0000e-005	1.8700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.0200e-003	4.0200e-003	1.0000e-005		4.2800e-003
Unmitigated	8.7800e-003	2.0000e-005	1.8700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.0200e-003	4.0200e-003	1.0000e-005		4.2800e-003

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**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	2.1000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005			4.0200e-003	4.0200e-003	1.0000e-005	4.2800e-003
<b>Total</b>	<b>8.7800e-003</b>	<b>2.0000e-005</b>	<b>1.8700e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>			<b>4.0200e-003</b>	<b>4.0200e-003</b>	<b>1.0000e-005</b>	<b>4.2800e-003</b>

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8700e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005			4.0200e-003	4.0200e-003	1.0000e-005	4.2800e-003
<b>Total</b>	<b>8.7800e-003</b>	<b>2.0000e-005</b>	<b>1.8700e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>			<b>4.0200e-003</b>	<b>4.0200e-003</b>	<b>1.0000e-005</b>	<b>4.2800e-003</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

Waterline Improvement Project - Phase Central Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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

**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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Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**Waterline Improvement Project - Phase East Area\_AQ**

**San Luis Obispo County APCD Air District, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	23.20	1000sqft	0.53	23,200.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.2	<b>Precipitation Freq (Days)</b>	44
<b>Climate Zone</b>	4			<b>Operational Year</b>	2025
<b>Utility Company</b>	Pacific Gas and Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	203.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use -

Construction Phase - Construction schedule provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Grading - Information provided by the applicant

Construction Off-road Equipment Mitigation - Based on SLOAPCD Fugitive Dust Mitigation Measures: Expanded List

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	30.00

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	15.00
tblGrading	MaterialExported	0.00	863.00
tblGrading	MaterialImported	0.00	690.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType	Cement and Mortar Mixers	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

**2.0 Emissions Summary**

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Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0111	2.0000e-005	2.3600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.0800e-003	5.0800e-003	1.0000e-005		5.4100e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0111</b>	<b>2.0000e-005</b>	<b>2.3600e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>5.0800e-003</b>	<b>5.0800e-003</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>5.4100e-003</b>

**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	0.0111	2.0000e-005	2.3600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.0800e-003	5.0800e-003	1.0000e-005		5.4100e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0111</b>	<b>2.0000e-005</b>	<b>2.3600e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>5.0800e-003</b>	<b>5.0800e-003</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>5.4100e-003</b>



Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

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

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demo/Site Prep - Phase East Area	Site Preparation	9/3/2025	9/23/2025	5	15	
2	Pipeline Install (trench) - Phase East Area	Grading	9/24/2025	11/4/2025	5	30	
3	Paving/Ground Restoration - Phase East Area	Paving	11/5/2025	11/18/2025	5	10	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0.53**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demo/Site Prep - Phase East Area	Air Compressors	1	8.00	78	0.48
Demo/Site Prep - Phase East Area	Concrete/Industrial Saws	1	8.00	81	0.73
Demo/Site Prep - Phase East Area	Generator Sets	1	8.00	84	0.74
Demo/Site Prep - Phase East Area	Graders	0	8.00	187	0.41
Demo/Site Prep - Phase East Area	Off-Highway Trucks	1	2.00	402	0.38
Demo/Site Prep - Phase East Area	Rubber Tired Loaders	1	8.00	203	0.36
Demo/Site Prep - Phase East Area	Signal Boards	1	8.00	6	0.82
Demo/Site Prep - Phase East Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

Pipeline Install (trench) - Phase East Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trench) - Phase East Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trench) - Phase East Area	Graders	0	6.00	187	0.41
Pipeline Install (trench) - Phase East Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trench) - Phase East Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trench) - Phase East Area	Rough Terrain Forklifts	1	8.00	100	0.40
Pipeline Install (trench) - Phase East Area	Rubber Tired Dozers	0	6.00	247	0.40
Pipeline Install (trench) - Phase East Area	Rubber Tired Loaders	1	8.00	203	0.36
Pipeline Install (trench) - Phase East Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trench) - Phase East Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trench) - Phase East Area	Trenchers	1	8.00	78	0.50
Paving/Ground Restoration - Phase East Area	Air Compressors	1	8.00	78	0.48
Paving/Ground Restoration - Phase East Area	Off-Highway Trucks	1	8.00	402	0.38
Paving/Ground Restoration - Phase East Area	Concrete/Industrial Saws	1	8.00	81	0.73
Paving/Ground Restoration - Phase East Area	Generator Sets	1	8.00	84	0.74
Paving/Ground Restoration - Phase East Area	Off-Highway Trucks	1	2.00	402	0.38
Paving/Ground Restoration - Phase East Area	Pavers	1	7.00	130	0.42
Paving/Ground Restoration - Phase East Area	Paving Equipment	1	8.00	132	0.36
Paving/Ground Restoration - Phase East Area	Plate Compactors	1	8.00	8	0.43
Paving/Ground Restoration - Phase East Area	Rollers	0	7.00	80	0.38
Paving/Ground Restoration - Phase East Area	Signal Boards	1	8.00	6	0.82
Paving/Ground Restoration - Phase East Area	Surfacing Equipment	1	8.00	263	0.30
Paving/Ground Restoration - Phase East Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demo/Site Prep - Phase East Area	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trench) - Phase East	9	23.00	0.00	194.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving/Ground Restoration - Phase E	11	28.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Demo/Site Prep - Phase East Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016		2,867.874 4	2,867.874 4	0.4717		2,879.667 3
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>		<b>2,867.874 4</b>	<b>2,867.874 4</b>	<b>0.4717</b>		<b>2,879.667 3</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.2 Demo/Site Prep - Phase East Area - 2025**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0301	0.4268	1.4100e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		146.7008	146.7008	3.2200e-003	3.4100e-003	147.7983
<b>Total</b>	<b>0.0505</b>	<b>0.0301</b>	<b>0.4268</b>	<b>1.4100e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>146.7008</b>	<b>146.7008</b>	<b>3.2200e-003</b>	<b>3.4100e-003</b>	<b>147.7983</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016	0.0000	2,867.8744	2,867.8744	0.4717		2,879.6673
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>	<b>0.0000</b>	<b>2,867.8744</b>	<b>2,867.8744</b>	<b>0.4717</b>		<b>2,879.6673</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.2 Demo/Site Prep - Phase East Area - 2025**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0301	0.4268	1.4100e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		146.7008	146.7008	3.2200e-003	3.4100e-003	147.7983
<b>Total</b>	<b>0.0505</b>	<b>0.0301</b>	<b>0.4268</b>	<b>1.4100e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>146.7008</b>	<b>146.7008</b>	<b>3.2200e-003</b>	<b>3.4100e-003</b>	<b>147.7983</b>

**3.3 Pipeline Install (trench) - Phase East Area - 2025**

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					9.5300e-003	0.0000	9.5300e-003	1.4400e-003	0.0000	1.4400e-003			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259		2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>9.5300e-003</b>	<b>0.5553</b>	<b>0.5648</b>	<b>1.4400e-003</b>	<b>0.5259</b>	<b>0.5273</b>		<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.3 Pipeline Install (trench) - Phase East Area - 2025**

**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	0.0168	0.9931	0.2127	3.8500e-003	0.1131	8.2300e-003	0.1214	0.0310	7.8800e-003	0.0389		421.2264	421.2264	0.0160	0.0668	441.5348
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0646	0.0385	0.5453	1.8000e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		187.4510	187.4510	4.1100e-003	4.3600e-003	188.8533
<b>Total</b>	<b>0.0814</b>	<b>1.0316</b>	<b>0.7580</b>	<b>5.6500e-003</b>	<b>0.3405</b>	<b>9.2200e-003</b>	<b>0.3497</b>	<b>0.0913</b>	<b>8.7900e-003</b>	<b>0.1001</b>		<b>608.6774</b>	<b>608.6774</b>	<b>0.0202</b>	<b>0.0712</b>	<b>630.3882</b>

**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					4.2900e-003	0.0000	4.2900e-003	6.5000e-004	0.0000	6.5000e-004			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259	0.0000	2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>4.2900e-003</b>	<b>0.5553</b>	<b>0.5596</b>	<b>6.5000e-004</b>	<b>0.5259</b>	<b>0.5265</b>	<b>0.0000</b>	<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.3 Pipeline Install (trench) - Phase East Area - 2025**

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	0.0168	0.9931	0.2127	3.8500e-003	0.1131	8.2300e-003	0.1214	0.0310	7.8800e-003	0.0389		421.2264	421.2264	0.0160	0.0668	441.5348
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0646	0.0385	0.5453	1.8000e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		187.4510	187.4510	4.1100e-003	4.3600e-003	188.8533
<b>Total</b>	<b>0.0814</b>	<b>1.0316</b>	<b>0.7580</b>	<b>5.6500e-003</b>	<b>0.3405</b>	<b>9.2200e-003</b>	<b>0.3497</b>	<b>0.0913</b>	<b>8.7900e-003</b>	<b>0.1001</b>		<b>608.6774</b>	<b>608.6774</b>	<b>0.0202</b>	<b>0.0712</b>	<b>630.3882</b>

**3.4 Paving/Ground Restoration - Phase East Area - 2025**

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	2.0786	16.0642	22.8832	0.0523		0.6549	0.6549		0.6249	0.6249		4,991.9108	4,991.9108	1.1511		5,020.6882
Paving	0.1389					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.2175</b>	<b>16.0642</b>	<b>22.8832</b>	<b>0.0523</b>		<b>0.6549</b>	<b>0.6549</b>		<b>0.6249</b>	<b>0.6249</b>		<b>4,991.9108</b>	<b>4,991.9108</b>	<b>1.1511</b>		<b>5,020.6882</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.4 Paving/Ground Restoration - Phase East Area - 2025**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0786	0.0469	0.6639	2.1900e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		228.2012	228.2012	5.0100e-003	5.3100e-003	229.9084
<b>Total</b>	<b>0.0786</b>	<b>0.0469</b>	<b>0.6639</b>	<b>2.1900e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>228.2012</b>	<b>228.2012</b>	<b>5.0100e-003</b>	<b>5.3100e-003</b>	<b>229.9084</b>

**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	2.0786	16.0642	22.8832	0.0523		0.6549	0.6549		0.6249	0.6249	0.0000	4,991.9108	4,991.9108	1.1511		5,020.6882
Paving	0.1389					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.2175</b>	<b>16.0642</b>	<b>22.8832</b>	<b>0.0523</b>		<b>0.6549</b>	<b>0.6549</b>		<b>0.6249</b>	<b>0.6249</b>	<b>0.0000</b>	<b>4,991.9108</b>	<b>4,991.9108</b>	<b>1.1511</b>		<b>5,020.6882</b>



Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.4 Paving/Ground Restoration - Phase East Area - 2025**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0786	0.0469	0.6639	2.1900e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		228.2012	228.2012	5.0100e-003	5.3100e-003	229.9084
<b>Total</b>	<b>0.0786</b>	<b>0.0469</b>	<b>0.6639</b>	<b>2.1900e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>228.2012</b>	<b>228.2012</b>	<b>5.0100e-003</b>	<b>5.3100e-003</b>	<b>229.9084</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

**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
Other Asphalt Surfaces	13.00	5.00	5.00	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.492178	0.057147	0.202572	0.146456	0.036760	0.009141	0.008293	0.005994	0.000937	0.000362	0.032672	0.000959	0.006529

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**5.2 Energy by Land Use - NaturalGas**

Mitigated

	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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive 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	0.0111	2.0000e-005	2.3600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.0800e-003	5.0800e-003	1.0000e-005		5.4100e-003
Unmitigated	0.0111	2.0000e-005	2.3600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.0800e-003	5.0800e-003	1.0000e-005		5.4100e-003

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**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	2.6500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.2200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.2000e-004	2.0000e-005	2.3600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.0800e-003	5.0800e-003	1.0000e-005		5.4100e-003
<b>Total</b>	<b>0.0111</b>	<b>2.0000e-005</b>	<b>2.3600e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>5.0800e-003</b>	<b>5.0800e-003</b>	<b>1.0000e-005</b>		<b>5.4100e-003</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.6500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.2200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.2000e-004	2.0000e-005	2.3600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.0800e-003	5.0800e-003	1.0000e-005		5.4100e-003
<b>Total</b>	<b>0.0111</b>	<b>2.0000e-005</b>	<b>2.3600e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>5.0800e-003</b>	<b>5.0800e-003</b>	<b>1.0000e-005</b>		<b>5.4100e-003</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

## Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied****8.0 Waste Detail**

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

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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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Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**Waterline Improvement Project - Phase East Area\_AQ**

**San Luis Obispo County APCD Air District, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	23.20	1000sqft	0.53	23,200.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.2	<b>Precipitation Freq (Days)</b>	44
<b>Climate Zone</b>	4			<b>Operational Year</b>	2025
<b>Utility Company</b>	Pacific Gas and Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	203.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use -

Construction Phase - Construction schedule provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Grading - Information provided by the applicant

Construction Off-road Equipment Mitigation - Based on SLOAPCD Fugitive Dust Mitigation Measures: Expanded List

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	30.00



Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	15.00
tblGrading	MaterialExported	0.00	863.00
tblGrading	MaterialImported	0.00	690.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType	Cement and Mortar Mixers	Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

**2.0 Emissions Summary**

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Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0111	2.0000e-005	2.3600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.0800e-003	5.0800e-003	1.0000e-005		5.4100e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0111</b>	<b>2.0000e-005</b>	<b>2.3600e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>5.0800e-003</b>	<b>5.0800e-003</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>5.4100e-003</b>

**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	0.0111	2.0000e-005	2.3600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.0800e-003	5.0800e-003	1.0000e-005		5.4100e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0111</b>	<b>2.0000e-005</b>	<b>2.3600e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>5.0800e-003</b>	<b>5.0800e-003</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>5.4100e-003</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

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

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demo/Site Prep - Phase East Area	Site Preparation	9/3/2025	9/23/2025	5	15	
2	Pipeline Install (trench) - Phase East Area	Grading	9/24/2025	11/4/2025	5	30	
3	Paving/Ground Restoration - Phase East Area	Paving	11/5/2025	11/18/2025	5	10	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0.53**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demo/Site Prep - Phase East Area	Air Compressors	1	8.00	78	0.48
Demo/Site Prep - Phase East Area	Concrete/Industrial Saws	1	8.00	81	0.73
Demo/Site Prep - Phase East Area	Generator Sets	1	8.00	84	0.74
Demo/Site Prep - Phase East Area	Graders	0	8.00	187	0.41
Demo/Site Prep - Phase East Area	Off-Highway Trucks	1	2.00	402	0.38
Demo/Site Prep - Phase East Area	Rubber Tired Loaders	1	8.00	203	0.36
Demo/Site Prep - Phase East Area	Signal Boards	1	8.00	6	0.82
Demo/Site Prep - Phase East Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

Pipeline Install (trench) - Phase East Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trench) - Phase East Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trench) - Phase East Area	Graders	0	6.00	187	0.41
Pipeline Install (trench) - Phase East Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trench) - Phase East Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trench) - Phase East Area	Rough Terrain Forklifts	1	8.00	100	0.40
Pipeline Install (trench) - Phase East Area	Rubber Tired Dozers	0	6.00	247	0.40
Pipeline Install (trench) - Phase East Area	Rubber Tired Loaders	1	8.00	203	0.36
Pipeline Install (trench) - Phase East Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trench) - Phase East Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trench) - Phase East Area	Trenchers	1	8.00	78	0.50
Paving/Ground Restoration - Phase East Area	Air Compressors	1	8.00	78	0.48
Paving/Ground Restoration - Phase East Area	Off-Highway Trucks	1	8.00	402	0.38
Paving/Ground Restoration - Phase East Area	Concrete/Industrial Saws	1	8.00	81	0.73
Paving/Ground Restoration - Phase East Area	Generator Sets	1	8.00	84	0.74
Paving/Ground Restoration - Phase East Area	Off-Highway Trucks	1	2.00	402	0.38
Paving/Ground Restoration - Phase East Area	Pavers	1	7.00	130	0.42
Paving/Ground Restoration - Phase East Area	Paving Equipment	1	8.00	132	0.36
Paving/Ground Restoration - Phase East Area	Plate Compactors	1	8.00	8	0.43
Paving/Ground Restoration - Phase East Area	Rollers	0	7.00	80	0.38
Paving/Ground Restoration - Phase East Area	Signal Boards	1	8.00	6	0.82
Paving/Ground Restoration - Phase East Area	Surfacing Equipment	1	8.00	263	0.30
Paving/Ground Restoration - Phase East Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demo/Site Prep - Phase East Area	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trench) - Phase East	9	23.00	0.00	194.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving/Ground Restoration - Phase E	11	28.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Demo/Site Prep - Phase East Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016		2,867.874 4	2,867.874 4	0.4717		2,879.667 3
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>		<b>2,867.874 4</b>	<b>2,867.874 4</b>	<b>0.4717</b>		<b>2,879.667 3</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.2 Demo/Site Prep - Phase East Area - 2025**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0561	0.0342	0.4182	1.3500e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		140.5842	140.5842	3.4900e-003	3.7100e-003	141.7778
<b>Total</b>	<b>0.0561</b>	<b>0.0342</b>	<b>0.4182</b>	<b>1.3500e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>140.5842</b>	<b>140.5842</b>	<b>3.4900e-003</b>	<b>3.7100e-003</b>	<b>141.7778</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016	0.0000	2,867.8744	2,867.8744	0.4717		2,879.6673
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>	<b>0.0000</b>	<b>2,867.8744</b>	<b>2,867.8744</b>	<b>0.4717</b>		<b>2,879.6673</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.2 Demo/Site Prep - Phase East Area - 2025**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0561	0.0342	0.4182	1.3500e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		140.5842	140.5842	3.4900e-003	3.7100e-003	141.7778
<b>Total</b>	<b>0.0561</b>	<b>0.0342</b>	<b>0.4182</b>	<b>1.3500e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>140.5842</b>	<b>140.5842</b>	<b>3.4900e-003</b>	<b>3.7100e-003</b>	<b>141.7778</b>

**3.3 Pipeline Install (trench) - Phase East Area - 2025**

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					9.5300e-003	0.0000	9.5300e-003	1.4400e-003	0.0000	1.4400e-003			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259		2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>9.5300e-003</b>	<b>0.5553</b>	<b>0.5648</b>	<b>1.4400e-003</b>	<b>0.5259</b>	<b>0.5273</b>		<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>



Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.3 Pipeline Install (trench) - Phase East Area - 2025**

**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	0.0160	1.0222	0.2157	3.8600e-003	0.1131	8.2500e-003	0.1214	0.0310	7.8900e-003	0.0389		421.5925	421.5925	0.0160	0.0669	441.9174
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0717	0.0437	0.5343	1.7200e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		179.6354	179.6354	4.4500e-003	4.7400e-003	181.1605
<b>Total</b>	<b>0.0876</b>	<b>1.0659</b>	<b>0.7500</b>	<b>5.5800e-003</b>	<b>0.3405</b>	<b>9.2400e-003</b>	<b>0.3497</b>	<b>0.0913</b>	<b>8.8000e-003</b>	<b>0.1001</b>		<b>601.2279</b>	<b>601.2279</b>	<b>0.0205</b>	<b>0.0716</b>	<b>623.0779</b>

**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					4.2900e-003	0.0000	4.2900e-003	6.5000e-004	0.0000	6.5000e-004			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259	0.0000	2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>4.2900e-003</b>	<b>0.5553</b>	<b>0.5596</b>	<b>6.5000e-004</b>	<b>0.5259</b>	<b>0.5265</b>	<b>0.0000</b>	<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.3 Pipeline Install (trench) - Phase East Area - 2025**

**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	0.0160	1.0222	0.2157	3.8600e-003	0.1131	8.2500e-003	0.1214	0.0310	7.8900e-003	0.0389		421.5925	421.5925	0.0160	0.0669	441.9174
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0717	0.0437	0.5343	1.7200e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		179.6354	179.6354	4.4500e-003	4.7400e-003	181.1605
<b>Total</b>	<b>0.0876</b>	<b>1.0659</b>	<b>0.7500</b>	<b>5.5800e-003</b>	<b>0.3405</b>	<b>9.2400e-003</b>	<b>0.3497</b>	<b>0.0913</b>	<b>8.8000e-003</b>	<b>0.1001</b>		<b>601.2279</b>	<b>601.2279</b>	<b>0.0205</b>	<b>0.0716</b>	<b>623.0779</b>

**3.4 Paving/Ground Restoration - Phase East Area - 2025**

**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	2.0786	16.0642	22.8832	0.0523		0.6549	0.6549		0.6249	0.6249		4,991.9108	4,991.9108	1.1511		5,020.6882
Paving	0.1389					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.2175</b>	<b>16.0642</b>	<b>22.8832</b>	<b>0.0523</b>		<b>0.6549</b>	<b>0.6549</b>		<b>0.6249</b>	<b>0.6249</b>		<b>4,991.9108</b>	<b>4,991.9108</b>	<b>1.1511</b>		<b>5,020.6882</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.4 Paving/Ground Restoration - Phase East Area - 2025**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0873	0.0532	0.6505	2.1000e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		218.6866	218.6866	5.4200e-003	5.7800e-003	220.5432
<b>Total</b>	<b>0.0873</b>	<b>0.0532</b>	<b>0.6505</b>	<b>2.1000e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>218.6866</b>	<b>218.6866</b>	<b>5.4200e-003</b>	<b>5.7800e-003</b>	<b>220.5432</b>

**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	2.0786	16.0642	22.8832	0.0523		0.6549	0.6549		0.6249	0.6249	0.0000	4,991.9108	4,991.9108	1.1511		5,020.6882
Paving	0.1389					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.2175</b>	<b>16.0642</b>	<b>22.8832</b>	<b>0.0523</b>		<b>0.6549</b>	<b>0.6549</b>		<b>0.6249</b>	<b>0.6249</b>	<b>0.0000</b>	<b>4,991.9108</b>	<b>4,991.9108</b>	<b>1.1511</b>		<b>5,020.6882</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.4 Paving/Ground Restoration - Phase East Area - 2025**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0873	0.0532	0.6505	2.1000e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		218.6866	218.6866	5.4200e-003	5.7800e-003	220.5432
<b>Total</b>	<b>0.0873</b>	<b>0.0532</b>	<b>0.6505</b>	<b>2.1000e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>218.6866</b>	<b>218.6866</b>	<b>5.4200e-003</b>	<b>5.7800e-003</b>	<b>220.5432</b>

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

**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
Other Asphalt Surfaces	13.00	5.00	5.00	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.492178	0.057147	0.202572	0.146456	0.036760	0.009141	0.008293	0.005994	0.000937	0.000362	0.032672	0.000959	0.006529

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**5.2 Energy by Land Use - NaturalGas**

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive 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	0.0111	2.0000e-005	2.3600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.0800e-003	5.0800e-003	1.0000e-005		5.4100e-003
Unmitigated	0.0111	2.0000e-005	2.3600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.0800e-003	5.0800e-003	1.0000e-005		5.4100e-003

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**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	2.6500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.2200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.2000e-004	2.0000e-005	2.3600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005			5.0800e-003	5.0800e-003	1.0000e-005	5.4100e-003
<b>Total</b>	<b>0.0111</b>	<b>2.0000e-005</b>	<b>2.3600e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>			<b>5.0800e-003</b>	<b>5.0800e-003</b>	<b>1.0000e-005</b>	<b>5.4100e-003</b>



Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.6500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.2200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.2000e-004	2.0000e-005	2.3600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.0800e-003	5.0800e-003	1.0000e-005		5.4100e-003
<b>Total</b>	<b>0.0111</b>	<b>2.0000e-005</b>	<b>2.3600e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>5.0800e-003</b>	<b>5.0800e-003</b>	<b>1.0000e-005</b>		<b>5.4100e-003</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

Waterline Improvement Project - Phase East Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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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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Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**Waterline Improvement Project - Phase Pier Area\_AQ**

**San Luis Obispo County APCD Air District, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	24.70	1000sqft	0.57	24,700.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.2	<b>Precipitation Freq (Days)</b>	44
<b>Climate Zone</b>	4			<b>Operational Year</b>	2025
<b>Utility Company</b>	Pacific Gas and Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	203.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use -

Construction Phase - Construction schedule provided by the applicant

Off-road Equipment - Construction equipment based on applicant provided information.

Off-road Equipment - Construction equipment based on applicant provided information.

Off-road Equipment - Construction equipment based on applicant provided information.

Off-road Equipment - Construction equipment based on applicant provided information.

Grading - Based on information provided by the applicant

Vehicle Trips - Assumed one worker trip, per year for one day. Vehicle miles estimated by the linear feet installed multiplied by two.

Construction Off-road Equipment Mitigation - Based on SLOAPCD Fugitive Dust Mitigation Measures: Expanded List

Area Coating -

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	15.00
tblGrading	MaterialExported	0.00	1,039.00
tblGrading	MaterialImported	0.00	831.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblVehicleTrips	CW_TL	13.00	0.03
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	0.01

**2.0 Emissions Summary**

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Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0118	2.0000e-005	2.5200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.4100e-003	5.4100e-003	1.0000e-005		5.7600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	4.2000e-004	1.5000e-004	1.2200e-003	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000		0.0405	0.0405	3.0000e-005	1.0000e-005	0.0454
<b>Total</b>	<b>0.0122</b>	<b>1.7000e-004</b>	<b>3.7400e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.0459</b>	<b>0.0459</b>	<b>4.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0512</b>

**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	0.0118	2.0000e-005	2.5200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.4100e-003	5.4100e-003	1.0000e-005		5.7600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	4.2000e-004	1.5000e-004	1.2200e-003	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000		0.0405	0.0405	3.0000e-005	1.0000e-005	0.0454
<b>Total</b>	<b>0.0122</b>	<b>1.7000e-004</b>	<b>3.7400e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.0459</b>	<b>0.0459</b>	<b>4.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0512</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

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

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demo/Site Prep - Phase Pier Area	Site Preparation	1/1/2025	1/21/2025	5	15	
2	Pipeline Install (trenchless) - Phase Pier Area	Grading	1/22/2025	1/28/2025	5	5	
3	Pipeline Install (Trench) - Phase Pier Area	Grading	1/29/2025	3/11/2025	5	30	
4	Paving/Ground Restoration - Phase Pier Area	Paving	3/12/2025	3/25/2025	5	10	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0.57**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demo/Site Prep - Phase Pier Area	Air Compressors	1	8.00	78	0.48
Demo/Site Prep - Phase Pier Area	Concrete/Industrial Saws	1	8.00	81	0.73
Demo/Site Prep - Phase Pier Area	Generator Sets	1	8.00	84	0.74
Demo/Site Prep - Phase Pier Area	Graders	0	8.00	187	0.41
Demo/Site Prep - Phase Pier Area	Off-Highway Trucks	1	2.00	402	0.38
Demo/Site Prep - Phase Pier Area	Rubber Tired Loaders	1	8.00	203	0.36
Demo/Site Prep - Phase Pier Area	Signal Boards	1	8.00	6	0.82

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

Demo/Site Prep - Phase Pier Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Install (trenchless) -Phase Pier Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trenchless) -Phase Pier Area	Bore/Drill Rigs	1	8.00	221	0.50
Pipeline Install (trenchless) -Phase Pier Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trenchless) -Phase Pier Area	Graders	0	6.00	187	0.41
Pipeline Install (trenchless) -Phase Pier Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trenchless) -Phase Pier Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trenchless) -Phase Pier Area	Rollers	1	8.00	80	0.38
Pipeline Install (trenchless) -Phase Pier Area	Rubber Tired Dozers	0	6.00	247	0.40
Pipeline Install (trenchless) -Phase Pier Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trenchless) -Phase Pier Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trenchless) -Phase Pier Area	Welders	1	8.00	46	0.45
Pipeline Install (Trench) - Phase Pier Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (Trench) - Phase Pier Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (Trench) - Phase Pier Area	Graders	0	6.00	187	0.41
Pipeline Install (Trench) - Phase Pier Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (Trench) - Phase Pier Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (Trench) - Phase Pier Area	Rough Terrain Forklifts	1	8.00	100	0.40
Pipeline Install (Trench) - Phase Pier Area	Rubber Tired Dozers	0	6.00	247	0.40
Pipeline Install (Trench) - Phase Pier Area	Rubber Tired Loaders	1	8.00	203	0.36
Pipeline Install (Trench) - Phase Pier Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (Trench) - Phase Pier Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (Trench) - Phase Pier Area	Trenchers	1	8.00	78	0.50
Paving/Ground Restoration - Phase Pier Area	Air Compressors	1	8.00	78	0.48



Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

Paving/Ground Restoration - Phase Pier Area	Concrete/Industrial Saws	1	8.00	81	0.73
Paving/Ground Restoration - Phase Pier Area	Generator Sets	1	8.00	84	0.74
Paving/Ground Restoration - Phase Pier Area	Off-Highway Trucks	1	8.00	402	0.38
Paving/Ground Restoration - Phase Pier Area	Off-Highway Trucks	1	2.00	402	0.38
Paving/Ground Restoration - Phase Pier Area	Pavers	1	7.00	130	0.42
Paving/Ground Restoration - Phase Pier Area	Paving Equipment	1	8.00	132	0.36
Paving/Ground Restoration - Phase Pier Area	Plate Compactors	1	8.00	8	0.43
Paving/Ground Restoration - Phase Pier Area	Rollers	0	7.00	80	0.38
Paving/Ground Restoration - Phase Pier Area	Signal Boards	1	8.00	6	0.82
Paving/Ground Restoration - Phase Pier Area	Surfacing Equipment	1	8.00	263	0.30
Paving/Ground Restoration - Phase Pier Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37

**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
Demo/Site Prep - Phase Pier Area	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trenchless) - Phase Pier Area	9	23.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (Trench) - Phase Pier Area	9	23.00	0.00	234.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving/Ground Restoration - Phase Pier Area	11	28.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.2 Demo/Site Prep - Phase Pier Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016		2,867.874 4	2,867.874 4	0.4717		2,879.667 3
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>		<b>2,867.874 4</b>	<b>2,867.874 4</b>	<b>0.4717</b>		<b>2,879.667 3</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0301	0.4268	1.4100e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		146.7008	146.7008	3.2200e-003	3.4100e-003	147.7983
<b>Total</b>	<b>0.0505</b>	<b>0.0301</b>	<b>0.4268</b>	<b>1.4100e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>146.7008</b>	<b>146.7008</b>	<b>3.2200e-003</b>	<b>3.4100e-003</b>	<b>147.7983</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.2 Demo/Site Prep - Phase Pier Area - 2025**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016	0.0000	2,867.874 4	2,867.874 4	0.4717		2,879.667 3
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>	<b>0.0000</b>	<b>2,867.874 4</b>	<b>2,867.874 4</b>	<b>0.4717</b>		<b>2,879.667 3</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0301	0.4268	1.4100e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		146.7008	146.7008	3.2200e-003	3.4100e-003	147.7983
<b>Total</b>	<b>0.0505</b>	<b>0.0301</b>	<b>0.4268</b>	<b>1.4100e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>146.7008</b>	<b>146.7008</b>	<b>3.2200e-003</b>	<b>3.4100e-003</b>	<b>147.7983</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.3 Pipeline Install (trenchless) -Phase Pier Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3927	11.0687	14.8651	0.0324		0.4354	0.4354		0.4189	0.4189		3,045.099 1	3,045.099 1	0.6397		3,061.091 2
<b>Total</b>	<b>1.3927</b>	<b>11.0687</b>	<b>14.8651</b>	<b>0.0324</b>	<b>0.0000</b>	<b>0.4354</b>	<b>0.4354</b>	<b>0.0000</b>	<b>0.4189</b>	<b>0.4189</b>		<b>3,045.099 1</b>	<b>3,045.099 1</b>	<b>0.6397</b>		<b>3,061.091 2</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0646	0.0385	0.5453	1.8000e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		187.4510	187.4510	4.1100e-003	4.3600e-003	188.8533
<b>Total</b>	<b>0.0646</b>	<b>0.0385</b>	<b>0.5453</b>	<b>1.8000e-003</b>	<b>0.2274</b>	<b>9.9000e-004</b>	<b>0.2284</b>	<b>0.0603</b>	<b>9.1000e-004</b>	<b>0.0612</b>		<b>187.4510</b>	<b>187.4510</b>	<b>4.1100e-003</b>	<b>4.3600e-003</b>	<b>188.8533</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.3 Pipeline Install (trenchless) -Phase Pier Area - 2025**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3927	11.0687	14.8651	0.0324		0.4354	0.4354		0.4189	0.4189	0.0000	3,045.099 1	3,045.099 1	0.6397		3,061.091 2
<b>Total</b>	<b>1.3927</b>	<b>11.0687</b>	<b>14.8651</b>	<b>0.0324</b>	<b>0.0000</b>	<b>0.4354</b>	<b>0.4354</b>	<b>0.0000</b>	<b>0.4189</b>	<b>0.4189</b>	<b>0.0000</b>	<b>3,045.099 1</b>	<b>3,045.099 1</b>	<b>0.6397</b>		<b>3,061.091 2</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0646	0.0385	0.5453	1.8000e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		187.4510	187.4510	4.1100e-003	4.3600e-003	188.8533
<b>Total</b>	<b>0.0646</b>	<b>0.0385</b>	<b>0.5453</b>	<b>1.8000e-003</b>	<b>0.2274</b>	<b>9.9000e-004</b>	<b>0.2284</b>	<b>0.0603</b>	<b>9.1000e-004</b>	<b>0.0612</b>		<b>187.4510</b>	<b>187.4510</b>	<b>4.1100e-003</b>	<b>4.3600e-003</b>	<b>188.8533</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.4 Pipeline Install (Trench) - Phase Pier Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0115	0.0000	0.0115	1.7400e-003	0.0000	1.7400e-003			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259		2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>0.0115</b>	<b>0.5553</b>	<b>0.5667</b>	<b>1.7400e-003</b>	<b>0.5259</b>	<b>0.5276</b>		<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>

**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	0.0203	1.1979	0.2565	4.6500e-003	0.1364	9.9300e-003	0.1464	0.0374	9.5000e-003	0.0469		508.0773	508.0773	0.0194	0.0806	532.5729
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0646	0.0385	0.5453	1.8000e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		187.4510	187.4510	4.1100e-003	4.3600e-003	188.8533
<b>Total</b>	<b>0.0848</b>	<b>1.2364</b>	<b>0.8019</b>	<b>6.4500e-003</b>	<b>0.3638</b>	<b>0.0109</b>	<b>0.3747</b>	<b>0.0977</b>	<b>0.0104</b>	<b>0.1081</b>		<b>695.5282</b>	<b>695.5282</b>	<b>0.0235</b>	<b>0.0849</b>	<b>721.4263</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.4 Pipeline Install (Trench) - Phase Pier Area - 2025**

**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					5.1600e-003	0.0000	5.1600e-003	7.8000e-004	0.0000	7.8000e-004			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259	0.0000	2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>5.1600e-003</b>	<b>0.5553</b>	<b>0.5604</b>	<b>7.8000e-004</b>	<b>0.5259</b>	<b>0.5267</b>	<b>0.0000</b>	<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>

**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	0.0203	1.1979	0.2565	4.6500e-003	0.1364	9.9300e-003	0.1464	0.0374	9.5000e-003	0.0469		508.0773	508.0773	0.0194	0.0806	532.5729
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0646	0.0385	0.5453	1.8000e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		187.4510	187.4510	4.1100e-003	4.3600e-003	188.8533
<b>Total</b>	<b>0.0848</b>	<b>1.2364</b>	<b>0.8019</b>	<b>6.4500e-003</b>	<b>0.3638</b>	<b>0.0109</b>	<b>0.3747</b>	<b>0.0977</b>	<b>0.0104</b>	<b>0.1081</b>		<b>695.5282</b>	<b>695.5282</b>	<b>0.0235</b>	<b>0.0849</b>	<b>721.4263</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.5 Paving/Ground Restoration - Phase Pier Area - 2025**

**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	2.0762	16.0498	22.8673	0.0522		0.6544	0.6544		0.6245	0.6245		4,985.512 4	4,985.512 4	1.1490		5,014.238 1
Paving	0.1493					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.2256</b>	<b>16.0498</b>	<b>22.8673</b>	<b>0.0522</b>		<b>0.6544</b>	<b>0.6544</b>		<b>0.6245</b>	<b>0.6245</b>		<b>4,985.512 4</b>	<b>4,985.512 4</b>	<b>1.1490</b>		<b>5,014.238 1</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0786	0.0469	0.6639	2.1900e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		228.2012	228.2012	5.0100e-003	5.3100e-003	229.9084
<b>Total</b>	<b>0.0786</b>	<b>0.0469</b>	<b>0.6639</b>	<b>2.1900e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>228.2012</b>	<b>228.2012</b>	<b>5.0100e-003</b>	<b>5.3100e-003</b>	<b>229.9084</b>



Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.5 Paving/Ground Restoration - Phase Pier Area - 2025**

**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	2.0762	16.0498	22.8673	0.0522		0.6544	0.6544		0.6245	0.6245	0.0000	4,985.512 4	4,985.512 4	1.1490		5,014.238 1
Paving	0.1493					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.2256</b>	<b>16.0498</b>	<b>22.8673</b>	<b>0.0522</b>		<b>0.6544</b>	<b>0.6544</b>		<b>0.6245</b>	<b>0.6245</b>	<b>0.0000</b>	<b>4,985.512 4</b>	<b>4,985.512 4</b>	<b>1.1490</b>		<b>5,014.238 1</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0786	0.0469	0.6639	2.1900e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		228.2012	228.2012	5.0100e-003	5.3100e-003	229.9084
<b>Total</b>	<b>0.0786</b>	<b>0.0469</b>	<b>0.6639</b>	<b>2.1900e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>228.2012</b>	<b>228.2012</b>	<b>5.0100e-003</b>	<b>5.3100e-003</b>	<b>229.9084</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive 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	4.2000e-004	1.5000e-004	1.2200e-003	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000		0.0405	0.0405	3.0000e-005	1.0000e-005	0.0454
Unmitigated	4.2000e-004	1.5000e-004	1.2200e-003	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000		0.0405	0.0405	3.0000e-005	1.0000e-005	0.0454

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.25	0.00	0.00	2	2
Total	0.25	0.00	0.00	2	2

**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
Other Asphalt Surfaces	0.03	5.00	5.00	100.00	0.00	0.00	100	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.492178	0.057147	0.202572	0.146456	0.036760	0.009141	0.008293	0.005994	0.000937	0.000362	0.032672	0.000959	0.006529

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**5.2 Energy by Land Use - NaturalGas**

Mitigated

	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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive 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	0.0118	2.0000e-005	2.5200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.4100e-003	5.4100e-003	1.0000e-005		5.7600e-003
Unmitigated	0.0118	2.0000e-005	2.5200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.4100e-003	5.4100e-003	1.0000e-005		5.7600e-003

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**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	2.8200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.7500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.3000e-004	2.0000e-005	2.5200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.4100e-003	5.4100e-003	1.0000e-005		5.7600e-003
<b>Total</b>	<b>0.0118</b>	<b>2.0000e-005</b>	<b>2.5200e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>5.4100e-003</b>	<b>5.4100e-003</b>	<b>1.0000e-005</b>		<b>5.7600e-003</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.8200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.7500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.3000e-004	2.0000e-005	2.5200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.4100e-003	5.4100e-003	1.0000e-005		5.7600e-003
<b>Total</b>	<b>0.0118</b>	<b>2.0000e-005</b>	<b>2.5200e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>5.4100e-003</b>	<b>5.4100e-003</b>	<b>1.0000e-005</b>		<b>5.7600e-003</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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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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Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**Waterline Improvement Project - Phase Pier Area\_AQ**

**San Luis Obispo County APCD Air District, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	24.70	1000sqft	0.57	24,700.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.2	<b>Precipitation Freq (Days)</b>	44
<b>Climate Zone</b>	4			<b>Operational Year</b>	2025
<b>Utility Company</b>	Pacific Gas and Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	203.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use -

Construction Phase - Construction schedule provided by the applicant

Off-road Equipment - Construction equipment based on applicant provided information.

Off-road Equipment - Construction equipment based on applicant provided information.

Off-road Equipment - Construction equipment based on applicant provided information.

Off-road Equipment - Construction equipment based on applicant provided information.

Grading - Based on information provided by the applicant

Vehicle Trips - Assumed one worker trip, per year for one day. Vehicle miles estimated by the linear feet installed multiplied by two.

Construction Off-road Equipment Mitigation - Based on SLOAPCD Fugitive Dust Mitigation Measures: Expanded List

Area Coating -



Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	5.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	15.00
tblGrading	MaterialExported	0.00	1,039.00
tblGrading	MaterialImported	0.00	831.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblVehicleTrips	CW_TL	13.00	0.03
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	0.01

**2.0 Emissions Summary**

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Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0118	2.0000e-005	2.5200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.4100e-003	5.4100e-003	1.0000e-005		5.7600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	3.9000e-004	1.7000e-004	1.5600e-003	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000		0.0410	0.0410	4.0000e-005	2.0000e-005	0.0465
<b>Total</b>	<b>0.0122</b>	<b>1.9000e-004</b>	<b>4.0800e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.0464</b>	<b>0.0464</b>	<b>5.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0523</b>

**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	0.0118	2.0000e-005	2.5200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.4100e-003	5.4100e-003	1.0000e-005		5.7600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	3.9000e-004	1.7000e-004	1.5600e-003	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000		0.0410	0.0410	4.0000e-005	2.0000e-005	0.0465
<b>Total</b>	<b>0.0122</b>	<b>1.9000e-004</b>	<b>4.0800e-003</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>0.0464</b>	<b>0.0464</b>	<b>5.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0523</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

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

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demo/Site Prep - Phase Pier Area	Site Preparation	1/1/2025	1/21/2025	5	15	
2	Pipeline Install (trenchless) - Phase Pier Area	Grading	1/22/2025	1/28/2025	5	5	
3	Pipeline Install (Trench) - Phase Pier Area	Grading	1/29/2025	3/11/2025	5	30	
4	Paving/Ground Restoration - Phase Pier Area	Paving	3/12/2025	3/25/2025	5	10	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0.57**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demo/Site Prep - Phase Pier Area	Air Compressors	1	8.00	78	0.48
Demo/Site Prep - Phase Pier Area	Concrete/Industrial Saws	1	8.00	81	0.73
Demo/Site Prep - Phase Pier Area	Generator Sets	1	8.00	84	0.74
Demo/Site Prep - Phase Pier Area	Graders	0	8.00	187	0.41
Demo/Site Prep - Phase Pier Area	Off-Highway Trucks	1	2.00	402	0.38
Demo/Site Prep - Phase Pier Area	Rubber Tired Loaders	1	8.00	203	0.36
Demo/Site Prep - Phase Pier Area	Signal Boards	1	8.00	6	0.82

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

Demo/Site Prep - Phase Pier Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Pipeline Install (trenchless) -Phase Pier Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trenchless) -Phase Pier Area	Bore/Drill Rigs	1	8.00	221	0.50
Pipeline Install (trenchless) -Phase Pier Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trenchless) -Phase Pier Area	Graders	0	6.00	187	0.41
Pipeline Install (trenchless) -Phase Pier Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trenchless) -Phase Pier Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trenchless) -Phase Pier Area	Rollers	1	8.00	80	0.38
Pipeline Install (trenchless) -Phase Pier Area	Rubber Tired Dozers	0	6.00	247	0.40
Pipeline Install (trenchless) -Phase Pier Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trenchless) -Phase Pier Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trenchless) -Phase Pier Area	Welders	1	8.00	46	0.45
Pipeline Install (Trench) - Phase Pier Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (Trench) - Phase Pier Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (Trench) - Phase Pier Area	Graders	0	6.00	187	0.41
Pipeline Install (Trench) - Phase Pier Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (Trench) - Phase Pier Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (Trench) - Phase Pier Area	Rough Terrain Forklifts	1	8.00	100	0.40
Pipeline Install (Trench) - Phase Pier Area	Rubber Tired Dozers	0	6.00	247	0.40
Pipeline Install (Trench) - Phase Pier Area	Rubber Tired Loaders	1	8.00	203	0.36
Pipeline Install (Trench) - Phase Pier Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (Trench) - Phase Pier Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (Trench) - Phase Pier Area	Trenchers	1	8.00	78	0.50
Paving/Ground Restoration - Phase Pier Area	Air Compressors	1	8.00	78	0.48

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

Paving/Ground Restoration - Phase Pier Area	Concrete/Industrial Saws	1	8.00	81	0.73
Paving/Ground Restoration - Phase Pier Area	Generator Sets	1	8.00	84	0.74
Paving/Ground Restoration - Phase Pier Area	Off-Highway Trucks	1	8.00	402	0.38
Paving/Ground Restoration - Phase Pier Area	Off-Highway Trucks	1	2.00	402	0.38
Paving/Ground Restoration - Phase Pier Area	Pavers	1	7.00	130	0.42
Paving/Ground Restoration - Phase Pier Area	Paving Equipment	1	8.00	132	0.36
Paving/Ground Restoration - Phase Pier Area	Plate Compactors	1	8.00	8	0.43
Paving/Ground Restoration - Phase Pier Area	Rollers	0	7.00	80	0.38
Paving/Ground Restoration - Phase Pier Area	Signal Boards	1	8.00	6	0.82
Paving/Ground Restoration - Phase Pier Area	Surfacing Equipment	1	8.00	263	0.30
Paving/Ground Restoration - Phase Pier Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37

**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
Demo/Site Prep - Phase Pier Area	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trenchless) - Phase Pier Area	9	23.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (Trench) - Phase Pier Area	9	23.00	0.00	234.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving/Ground Restoration - Phase Pier Area	11	28.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.2 Demo/Site Prep - Phase Pier Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016		2,867.874 4	2,867.874 4	0.4717		2,879.667 3
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>		<b>2,867.874 4</b>	<b>2,867.874 4</b>	<b>0.4717</b>		<b>2,879.667 3</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0561	0.0342	0.4182	1.3500e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		140.5842	140.5842	3.4900e-003	3.7100e-003	141.7778
<b>Total</b>	<b>0.0561</b>	<b>0.0342</b>	<b>0.4182</b>	<b>1.3500e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>140.5842</b>	<b>140.5842</b>	<b>3.4900e-003</b>	<b>3.7100e-003</b>	<b>141.7778</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.2 Demo/Site Prep - Phase Pier Area - 2025**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016	0.0000	2,867.874 4	2,867.874 4	0.4717		2,879.667 3
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>	<b>0.0000</b>	<b>2,867.874 4</b>	<b>2,867.874 4</b>	<b>0.4717</b>		<b>2,879.667 3</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0561	0.0342	0.4182	1.3500e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		140.5842	140.5842	3.4900e-003	3.7100e-003	141.7778
<b>Total</b>	<b>0.0561</b>	<b>0.0342</b>	<b>0.4182</b>	<b>1.3500e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>140.5842</b>	<b>140.5842</b>	<b>3.4900e-003</b>	<b>3.7100e-003</b>	<b>141.7778</b>



Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.3 Pipeline Install (trenchless) -Phase Pier Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3927	11.0687	14.8651	0.0324		0.4354	0.4354		0.4189	0.4189		3,045.099 1	3,045.099 1	0.6397		3,061.091 2
<b>Total</b>	<b>1.3927</b>	<b>11.0687</b>	<b>14.8651</b>	<b>0.0324</b>	<b>0.0000</b>	<b>0.4354</b>	<b>0.4354</b>	<b>0.0000</b>	<b>0.4189</b>	<b>0.4189</b>		<b>3,045.099 1</b>	<b>3,045.099 1</b>	<b>0.6397</b>		<b>3,061.091 2</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0717	0.0437	0.5343	1.7200e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		179.6354	179.6354	4.4500e-003	4.7400e-003	181.1605
<b>Total</b>	<b>0.0717</b>	<b>0.0437</b>	<b>0.5343</b>	<b>1.7200e-003</b>	<b>0.2274</b>	<b>9.9000e-004</b>	<b>0.2284</b>	<b>0.0603</b>	<b>9.1000e-004</b>	<b>0.0612</b>		<b>179.6354</b>	<b>179.6354</b>	<b>4.4500e-003</b>	<b>4.7400e-003</b>	<b>181.1605</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.3 Pipeline Install (trenchless) -Phase Pier Area - 2025**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3927	11.0687	14.8651	0.0324		0.4354	0.4354		0.4189	0.4189	0.0000	3,045.099 1	3,045.099 1	0.6397		3,061.091 2
<b>Total</b>	<b>1.3927</b>	<b>11.0687</b>	<b>14.8651</b>	<b>0.0324</b>	<b>0.0000</b>	<b>0.4354</b>	<b>0.4354</b>	<b>0.0000</b>	<b>0.4189</b>	<b>0.4189</b>	<b>0.0000</b>	<b>3,045.099 1</b>	<b>3,045.099 1</b>	<b>0.6397</b>		<b>3,061.091 2</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0717	0.0437	0.5343	1.7200e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		179.6354	179.6354	4.4500e-003	4.7400e-003	181.1605
<b>Total</b>	<b>0.0717</b>	<b>0.0437</b>	<b>0.5343</b>	<b>1.7200e-003</b>	<b>0.2274</b>	<b>9.9000e-004</b>	<b>0.2284</b>	<b>0.0603</b>	<b>9.1000e-004</b>	<b>0.0612</b>		<b>179.6354</b>	<b>179.6354</b>	<b>4.4500e-003</b>	<b>4.7400e-003</b>	<b>181.1605</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.4 Pipeline Install (Trench) - Phase Pier Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0115	0.0000	0.0115	1.7400e-003	0.0000	1.7400e-003			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259		2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>0.0115</b>	<b>0.5553</b>	<b>0.5667</b>	<b>1.7400e-003</b>	<b>0.5259</b>	<b>0.5276</b>		<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>

**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	0.0192	1.2329	0.2602	4.6500e-003	0.1364	9.9500e-003	0.1464	0.0374	9.5200e-003	0.0469		508.5188	508.5188	0.0193	0.0807	533.0344
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0717	0.0437	0.5343	1.7200e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		179.6354	179.6354	4.4500e-003	4.7400e-003	181.1605
<b>Total</b>	<b>0.0909</b>	<b>1.2766</b>	<b>0.7945</b>	<b>6.3700e-003</b>	<b>0.3638</b>	<b>0.0109</b>	<b>0.3748</b>	<b>0.0977</b>	<b>0.0104</b>	<b>0.1081</b>		<b>688.1542</b>	<b>688.1542</b>	<b>0.0238</b>	<b>0.0854</b>	<b>714.1949</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.4 Pipeline Install (Trench) - Phase Pier Area - 2025**

**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					5.1600e-003	0.0000	5.1600e-003	7.8000e-004	0.0000	7.8000e-004			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259	0.0000	2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>5.1600e-003</b>	<b>0.5553</b>	<b>0.5604</b>	<b>7.8000e-004</b>	<b>0.5259</b>	<b>0.5267</b>	<b>0.0000</b>	<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>

**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	0.0192	1.2329	0.2602	4.6500e-003	0.1364	9.9500e-003	0.1464	0.0374	9.5200e-003	0.0469		508.5188	508.5188	0.0193	0.0807	533.0344
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0717	0.0437	0.5343	1.7200e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		179.6354	179.6354	4.4500e-003	4.7400e-003	181.1605
<b>Total</b>	<b>0.0909</b>	<b>1.2766</b>	<b>0.7945</b>	<b>6.3700e-003</b>	<b>0.3638</b>	<b>0.0109</b>	<b>0.3748</b>	<b>0.0977</b>	<b>0.0104</b>	<b>0.1081</b>		<b>688.1542</b>	<b>688.1542</b>	<b>0.0238</b>	<b>0.0854</b>	<b>714.1949</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.5 Paving/Ground Restoration - Phase Pier Area - 2025**

**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	2.0762	16.0498	22.8673	0.0522		0.6544	0.6544		0.6245	0.6245		4,985.5124	4,985.5124	1.1490		5,014.2381
Paving	0.1493					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.2256</b>	<b>16.0498</b>	<b>22.8673</b>	<b>0.0522</b>		<b>0.6544</b>	<b>0.6544</b>		<b>0.6245</b>	<b>0.6245</b>		<b>4,985.5124</b>	<b>4,985.5124</b>	<b>1.1490</b>		<b>5,014.2381</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0873	0.0532	0.6505	2.1000e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		218.6866	218.6866	5.4200e-003	5.7800e-003	220.5432
<b>Total</b>	<b>0.0873</b>	<b>0.0532</b>	<b>0.6505</b>	<b>2.1000e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>218.6866</b>	<b>218.6866</b>	<b>5.4200e-003</b>	<b>5.7800e-003</b>	<b>220.5432</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.5 Paving/Ground Restoration - Phase Pier Area - 2025**

**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	2.0762	16.0498	22.8673	0.0522		0.6544	0.6544		0.6245	0.6245	0.0000	4,985.5124	4,985.5124	1.1490		5,014.2381
Paving	0.1493					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.2256</b>	<b>16.0498</b>	<b>22.8673</b>	<b>0.0522</b>		<b>0.6544</b>	<b>0.6544</b>		<b>0.6245</b>	<b>0.6245</b>	<b>0.0000</b>	<b>4,985.5124</b>	<b>4,985.5124</b>	<b>1.1490</b>		<b>5,014.2381</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0873	0.0532	0.6505	2.1000e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		218.6866	218.6866	5.4200e-003	5.7800e-003	220.5432
<b>Total</b>	<b>0.0873</b>	<b>0.0532</b>	<b>0.6505</b>	<b>2.1000e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>218.6866</b>	<b>218.6866</b>	<b>5.4200e-003</b>	<b>5.7800e-003</b>	<b>220.5432</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9000e-004	1.7000e-004	1.5600e-003	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000		0.0410	0.0410	4.0000e-005	2.0000e-005	0.0465
Unmitigated	3.9000e-004	1.7000e-004	1.5600e-003	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000		0.0410	0.0410	4.0000e-005	2.0000e-005	0.0465

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.25	0.00	0.00	2	2
Total	0.25	0.00	0.00	2	2

**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
Other Asphalt Surfaces	0.03	5.00	5.00	100.00	0.00	0.00	100	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.492178	0.057147	0.202572	0.146456	0.036760	0.009141	0.008293	0.005994	0.000937	0.000362	0.032672	0.000959	0.006529

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>



Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**5.2 Energy by Land Use - NaturalGas**

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive 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	0.0118	2.0000e-005	2.5200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.4100e-003	5.4100e-003	1.0000e-005		5.7600e-003
Unmitigated	0.0118	2.0000e-005	2.5200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.4100e-003	5.4100e-003	1.0000e-005		5.7600e-003

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**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	2.8200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.7500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.3000e-004	2.0000e-005	2.5200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.4100e-003	5.4100e-003	1.0000e-005		5.7600e-003
<b>Total</b>	<b>0.0118</b>	<b>2.0000e-005</b>	<b>2.5200e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>5.4100e-003</b>	<b>5.4100e-003</b>	<b>1.0000e-005</b>		<b>5.7600e-003</b>

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.8200e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	8.7500e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.3000e-004	2.0000e-005	2.5200e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		5.4100e-003	5.4100e-003	1.0000e-005		5.7600e-003
<b>Total</b>	<b>0.0118</b>	<b>2.0000e-005</b>	<b>2.5200e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>5.4100e-003</b>	<b>5.4100e-003</b>	<b>1.0000e-005</b>		<b>5.7600e-003</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Waterline Improvement Project - Phase Pier Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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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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Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**Waterline Improvement Project - Phase Strand Area\_AQ**

**San Luis Obispo County APCD Air District, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	9.87	1000sqft	0.23	9,875.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.2	<b>Precipitation Freq (Days)</b>	44
<b>Climate Zone</b>	4			<b>Operational Year</b>	2025
<b>Utility Company</b>	Pacific Gas and Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	203.98	<b>CH4 Intensity (lb/MW hr)</b>	0.033	<b>N2O Intensity (lb/MW hr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Based on information provided by the applicant

Construction Phase - Construction schedule provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Grading - Information provided by the applicant

Vehicle Trips - Assumed one worker trip per year for one day. Vehicle miles were estimated by linear pipeline length, multiplied by two for a return trip.

Construction Off-road Equipment Mitigation - Based on SLOAPCD Fugitive Dust Mitigation Measures: Expanded List

Area Coating -

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	15.00
tblGrading	MaterialExported	0.00	415.00
tblGrading	MaterialImported	0.00	332.00
tblLandUse	LandUseSquareFeet	9,870.00	9,875.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblVehicleTrips	CW_TL	13.00	0.02
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	0.01

**2.0 Emissions Summary**

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Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.7200e-003	1.0000e-005	1.0100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1600e-003	2.1600e-003	1.0000e-005		2.3000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.7000e-004	6.0000e-005	4.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0154	0.0154	1.0000e-005	1.0000e-005	0.0174
<b>Total</b>	<b>4.8900e-003</b>	<b>7.0000e-005</b>	<b>1.4900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0176</b>	<b>0.0176</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0197</b>

**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	4.7200e-003	1.0000e-005	1.0100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1600e-003	2.1600e-003	1.0000e-005		2.3000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.7000e-004	6.0000e-005	4.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0154	0.0154	1.0000e-005	1.0000e-005	0.0174
<b>Total</b>	<b>4.8900e-003</b>	<b>7.0000e-005</b>	<b>1.4900e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0176</b>	<b>0.0176</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0197</b>



Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

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

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demo/Site Prep - Phase Strand Area	Site Preparation	6/18/2025	7/8/2025	5	15	
2	Pipeline Install (trench) - Phase Strand Area	Grading	7/9/2025	8/19/2025	5	30	
3	Paving/Ground Restoration - Phase Strand Area	Paving	8/20/2025	9/2/2025	5	10	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0.23**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demo/Site Prep - Phase Strand Area	Air Compressors	1	8.00	78	0.48
Demo/Site Prep - Phase Strand Area	Concrete/Industrial Saws	1	8.00	81	0.73
Demo/Site Prep - Phase Strand Area	Generator Sets	1	8.00	84	0.74
Demo/Site Prep - Phase Strand Area	Graders	0	8.00	187	0.41
Demo/Site Prep - Phase Strand Area	Off-Highway Trucks	1	2.00	402	0.38
Demo/Site Prep - Phase Strand Area	Rubber Tired Loaders	1	8.00	203	0.36
Demo/Site Prep - Phase Strand Area	Signal Boards	1	8.00	6	0.82
Demo/Site Prep - Phase Strand Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

Pipeline Install (trench) - Phase Strand Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trench) - Phase Strand Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trench) - Phase Strand Area	Graders	0	6.00	187	0.41
Pipeline Install (trench) - Phase Strand Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trench) - Phase Strand Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trench) - Phase Strand Area	Rough Terrain Forklifts	1	8.00	100	0.40
Pipeline Install (trench) - Phase Strand Area	Rubber Tired Dozers	0	6.00	247	0.40
Pipeline Install (trench) - Phase Strand Area	Rubber Tired Loaders	1	8.00	203	0.36
Pipeline Install (trench) - Phase Strand Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trench) - Phase Strand Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trench) - Phase Strand Area	Trenchers	1	8.00	78	0.50
Paving/Ground Restoration - Phase Strand Area	Air Compressors	1	8.00	78	0.48
Paving/Ground Restoration - Phase Strand Area	Concrete/Industrial Saws	1	8.00	81	0.73
Paving/Ground Restoration - Phase Strand Area	Generator Sets	1	8.00	84	0.74
Paving/Ground Restoration - Phase Strand Area	Off-Highway Trucks	1	8.00	402	0.38
Paving/Ground Restoration - Phase Strand Area	Off-Highway Trucks	1	2.00	402	0.38
Paving/Ground Restoration - Phase Strand Area	Pavers	1	7.00	130	0.42
Paving/Ground Restoration - Phase Strand Area	Paving Equipment	1	8.00	132	0.36
Paving/Ground Restoration - Phase Strand Area	Plate Compactors	1	8.00	8	0.43
Paving/Ground Restoration - Phase Strand Area	Rollers	0	7.00	80	0.38
Paving/Ground Restoration - Phase Strand Area	Signal Boards	1	8.00	6	0.82
Paving/Ground Restoration - Phase Strand Area	Surfacing Equipment	1	8.00	263	0.30
Paving/Ground Restoration - Phase Strand Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demo/Site Prep - Phase Strand Area	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trench) - Phase Strand Area	9	23.00	0.00	93.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving/Ground Restoration - Phase Strand Area	11	28.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Demo/Site Prep - Phase Strand Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016		2,867.874 4	2,867.874 4	0.4717		2,879.667 3
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>		<b>2,867.874 4</b>	<b>2,867.874 4</b>	<b>0.4717</b>		<b>2,879.667 3</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.2 Demo/Site Prep - Phase Strand Area - 2025**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0301	0.4268	1.4100e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		146.7008	146.7008	3.2200e-003	3.4100e-003	147.7983
<b>Total</b>	<b>0.0505</b>	<b>0.0301</b>	<b>0.4268</b>	<b>1.4100e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>146.7008</b>	<b>146.7008</b>	<b>3.2200e-003</b>	<b>3.4100e-003</b>	<b>147.7983</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016	0.0000	2,867.8744	2,867.8744	0.4717		2,879.6673
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>	<b>0.0000</b>	<b>2,867.8744</b>	<b>2,867.8744</b>	<b>0.4717</b>		<b>2,879.6673</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.2 Demo/Site Prep - Phase Strand Area - 2025**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0505	0.0301	0.4268	1.4100e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		146.7008	146.7008	3.2200e-003	3.4100e-003	147.7983
<b>Total</b>	<b>0.0505</b>	<b>0.0301</b>	<b>0.4268</b>	<b>1.4100e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>146.7008</b>	<b>146.7008</b>	<b>3.2200e-003</b>	<b>3.4100e-003</b>	<b>147.7983</b>

**3.3 Pipeline Install (trench) - Phase Strand Area - 2025**

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					4.5800e-003	0.0000	4.5800e-003	6.9000e-004	0.0000	6.9000e-004			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259		2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>4.5800e-003</b>	<b>0.5553</b>	<b>0.5599</b>	<b>6.9000e-004</b>	<b>0.5259</b>	<b>0.5266</b>		<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.3 Pipeline Install (trench) - Phase Strand Area - 2025**

**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	8.0500e-003	0.4761	0.1020	1.8500e-003	0.0542	3.9500e-003	0.0582	0.0149	3.7800e-003	0.0186		201.9281	201.9281	7.6900e-003	0.0320	211.6636
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0646	0.0385	0.5453	1.8000e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		187.4510	187.4510	4.1100e-003	4.3600e-003	188.8533
<b>Total</b>	<b>0.0726</b>	<b>0.5146</b>	<b>0.6473</b>	<b>3.6500e-003</b>	<b>0.2816</b>	<b>4.9400e-003</b>	<b>0.2865</b>	<b>0.0752</b>	<b>4.6900e-003</b>	<b>0.0799</b>		<b>389.3791</b>	<b>389.3791</b>	<b>0.0118</b>	<b>0.0364</b>	<b>400.5169</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0600e-003	0.0000	2.0600e-003	3.1000e-004	0.0000	3.1000e-004			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259	0.0000	2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>2.0600e-003</b>	<b>0.5553</b>	<b>0.5573</b>	<b>3.1000e-004</b>	<b>0.5259</b>	<b>0.5262</b>	<b>0.0000</b>	<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.3 Pipeline Install (trench) - Phase Strand Area - 2025**

**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	8.0500e-003	0.4761	0.1020	1.8500e-003	0.0542	3.9500e-003	0.0582	0.0149	3.7800e-003	0.0186		201.9281	201.9281	7.6900e-003	0.0320	211.6636
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0646	0.0385	0.5453	1.8000e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		187.4510	187.4510	4.1100e-003	4.3600e-003	188.8533
<b>Total</b>	<b>0.0726</b>	<b>0.5146</b>	<b>0.6473</b>	<b>3.6500e-003</b>	<b>0.2816</b>	<b>4.9400e-003</b>	<b>0.2865</b>	<b>0.0752</b>	<b>4.6900e-003</b>	<b>0.0799</b>		<b>389.3791</b>	<b>389.3791</b>	<b>0.0118</b>	<b>0.0364</b>	<b>400.5169</b>

**3.4 Paving/Ground Restoration - Phase Strand Area - 2025**

**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	2.0762	16.0498	22.8673	0.0522		0.6544	0.6544		0.6245	0.6245		4,985.5124	4,985.5124	1.1490		5,014.2381
Paving	0.0603					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.1365</b>	<b>16.0498</b>	<b>22.8673</b>	<b>0.0522</b>		<b>0.6544</b>	<b>0.6544</b>		<b>0.6245</b>	<b>0.6245</b>		<b>4,985.5124</b>	<b>4,985.5124</b>	<b>1.1490</b>		<b>5,014.2381</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.4 Paving/Ground Restoration - Phase Strand Area - 2025**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0786	0.0469	0.6639	2.1900e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		228.2012	228.2012	5.0100e-003	5.3100e-003	229.9084
<b>Total</b>	<b>0.0786</b>	<b>0.0469</b>	<b>0.6639</b>	<b>2.1900e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>228.2012</b>	<b>228.2012</b>	<b>5.0100e-003</b>	<b>5.3100e-003</b>	<b>229.9084</b>

**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	2.0762	16.0498	22.8673	0.0522		0.6544	0.6544		0.6245	0.6245	0.0000	4,985.5124	4,985.5124	1.1490		5,014.2381
Paving	0.0603					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.1365</b>	<b>16.0498</b>	<b>22.8673</b>	<b>0.0522</b>		<b>0.6544</b>	<b>0.6544</b>		<b>0.6245</b>	<b>0.6245</b>	<b>0.0000</b>	<b>4,985.5124</b>	<b>4,985.5124</b>	<b>1.1490</b>		<b>5,014.2381</b>



Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**3.4 Paving/Ground Restoration - Phase Strand Area - 2025**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0786	0.0469	0.6639	2.1900e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		228.2012	228.2012	5.0100e-003	5.3100e-003	229.9084
<b>Total</b>	<b>0.0786</b>	<b>0.0469</b>	<b>0.6639</b>	<b>2.1900e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>228.2012</b>	<b>228.2012</b>	<b>5.0100e-003</b>	<b>5.3100e-003</b>	<b>229.9084</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive 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	1.7000e-004	6.0000e-005	4.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0154	0.0154	1.0000e-005	1.0000e-005	0.0174
Unmitigated	1.7000e-004	6.0000e-005	4.8000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0154	0.0154	1.0000e-005	1.0000e-005	0.0174

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.10	0.00	0.00	1	1
Total	0.10	0.00	0.00	1	1

**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
Other Asphalt Surfaces	0.02	5.00	5.00	100.00	0.00	0.00	100	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.492178	0.057147	0.202572	0.146456	0.036760	0.009141	0.008293	0.005994	0.000937	0.000362	0.032672	0.000959	0.006529

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**5.2 Energy by Land Use - NaturalGas**

Mitigated

	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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive 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	4.7200e-003	1.0000e-005	1.0100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1600e-003	2.1600e-003	1.0000e-005		2.3000e-003
Unmitigated	4.7200e-003	1.0000e-005	1.0100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1600e-003	2.1600e-003	1.0000e-005		2.3000e-003

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**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	1.1300e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.5000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.0000e-005	1.0000e-005	1.0100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1600e-003	2.1600e-003	1.0000e-005		2.3000e-003
<b>Total</b>	<b>4.7200e-003</b>	<b>1.0000e-005</b>	<b>1.0100e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.1600e-003</b>	<b>2.1600e-003</b>	<b>1.0000e-005</b>		<b>2.3000e-003</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.1300e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.5000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.0000e-005	1.0000e-005	1.0100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1600e-003	2.1600e-003	1.0000e-005		2.3000e-003
<b>Total</b>	<b>4.7200e-003</b>	<b>1.0000e-005</b>	<b>1.0100e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.1600e-003</b>	<b>2.1600e-003</b>	<b>1.0000e-005</b>		<b>2.3000e-003</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Summer

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

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

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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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Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**Waterline Improvement Project - Phase Strand Area\_AQ**

**San Luis Obispo County APCD Air District, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	9.87	1000sqft	0.23	9,875.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	3.2	<b>Precipitation Freq (Days)</b>	44
<b>Climate Zone</b>	4			<b>Operational Year</b>	2025
<b>Utility Company</b>	Pacific Gas and Electric Company				
<b>CO2 Intensity (lb/MWhr)</b>	203.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Based on information provided by the applicant

Construction Phase - Construction schedule provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Off-road Equipment - Construction equipment list provided by the applicant

Grading - Information provided by the applicant

Vehicle Trips - Assumed one worker trip per year for one day. Vehicle miles were estimated by linear pipeline length, multiplied by two for a return trip.

Construction Off-road Equipment Mitigation - Based on SLOAPCD Fugitive Dust Mitigation Measures: Expanded List

Area Coating -



Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	15.00
tblGrading	MaterialExported	0.00	415.00
tblGrading	MaterialImported	0.00	332.00
tblLandUse	LandUseSquareFeet	9,870.00	9,875.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblVehicleTrips	CW_TL	13.00	0.02
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	WD_TR	0.00	0.01

**2.0 Emissions Summary**

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Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.7200e-003	1.0000e-005	1.0100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1600e-003	2.1600e-003	1.0000e-005		2.3000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.5000e-004	7.0000e-005	6.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0157	0.0157	1.0000e-005	1.0000e-005	0.0179
<b>Total</b>	<b>4.8700e-003</b>	<b>8.0000e-005</b>	<b>1.6300e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0179</b>	<b>0.0179</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0202</b>

**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	4.7200e-003	1.0000e-005	1.0100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1600e-003	2.1600e-003	1.0000e-005		2.3000e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	1.5000e-004	7.0000e-005	6.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0157	0.0157	1.0000e-005	1.0000e-005	0.0179
<b>Total</b>	<b>4.8700e-003</b>	<b>8.0000e-005</b>	<b>1.6300e-003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0179</b>	<b>0.0179</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0202</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

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

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demo/Site Prep - Phase Strand Area	Site Preparation	6/18/2025	7/8/2025	5	15	
2	Pipeline Install (trench) - Phase Strand Area	Grading	7/9/2025	8/19/2025	5	30	
3	Paving/Ground Restoration - Phase Strand Area	Paving	8/20/2025	9/2/2025	5	10	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0.23**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demo/Site Prep - Phase Strand Area	Air Compressors	1	8.00	78	0.48
Demo/Site Prep - Phase Strand Area	Concrete/Industrial Saws	1	8.00	81	0.73
Demo/Site Prep - Phase Strand Area	Generator Sets	1	8.00	84	0.74
Demo/Site Prep - Phase Strand Area	Graders	0	8.00	187	0.41
Demo/Site Prep - Phase Strand Area	Off-Highway Trucks	1	2.00	402	0.38
Demo/Site Prep - Phase Strand Area	Rubber Tired Loaders	1	8.00	203	0.36
Demo/Site Prep - Phase Strand Area	Signal Boards	1	8.00	6	0.82
Demo/Site Prep - Phase Strand Area	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

Pipeline Install (trench) - Phase Strand Area	Air Compressors	1	8.00	78	0.48
Pipeline Install (trench) - Phase Strand Area	Generator Sets	1	8.00	84	0.74
Pipeline Install (trench) - Phase Strand Area	Graders	0	6.00	187	0.41
Pipeline Install (trench) - Phase Strand Area	Off-Highway Trucks	1	2.00	402	0.38
Pipeline Install (trench) - Phase Strand Area	Plate Compactors	1	8.00	8	0.43
Pipeline Install (trench) - Phase Strand Area	Rough Terrain Forklifts	1	8.00	100	0.40
Pipeline Install (trench) - Phase Strand Area	Rubber Tired Dozers	0	6.00	247	0.40
Pipeline Install (trench) - Phase Strand Area	Rubber Tired Loaders	1	8.00	203	0.36
Pipeline Install (trench) - Phase Strand Area	Signal Boards	1	8.00	6	0.82
Pipeline Install (trench) - Phase Strand Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Pipeline Install (trench) - Phase Strand Area	Trenchers	1	8.00	78	0.50
Paving/Ground Restoration - Phase Strand Area	Air Compressors	1	8.00	78	0.48
Paving/Ground Restoration - Phase Strand Area	Concrete/Industrial Saws	1	8.00	81	0.73
Paving/Ground Restoration - Phase Strand Area	Generator Sets	1	8.00	84	0.74
Paving/Ground Restoration - Phase Strand Area	Off-Highway Trucks	1	8.00	402	0.38
Paving/Ground Restoration - Phase Strand Area	Off-Highway Trucks	1	2.00	402	0.38
Paving/Ground Restoration - Phase Strand Area	Pavers	1	7.00	130	0.42
Paving/Ground Restoration - Phase Strand Area	Paving Equipment	1	8.00	132	0.36
Paving/Ground Restoration - Phase Strand Area	Plate Compactors	1	8.00	8	0.43
Paving/Ground Restoration - Phase Strand Area	Rollers	0	7.00	80	0.38
Paving/Ground Restoration - Phase Strand Area	Signal Boards	1	8.00	6	0.82
Paving/Ground Restoration - Phase Strand Area	Surfacing Equipment	1	8.00	263	0.30
Paving/Ground Restoration - Phase Strand Area	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demo/Site Prep - Phase Strand Area	7	18.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline Install (trench) - Phase Strand Area	9	23.00	0.00	93.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT
Paving/Ground Restoration - Phase Strand Area	11	28.00	0.00	0.00	13.00	5.00	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Demo/Site Prep - Phase Strand Area - 2025**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016		2,867.874 4	2,867.874 4	0.4717		2,879.667 3
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>		<b>2,867.874 4</b>	<b>2,867.874 4</b>	<b>0.4717</b>		<b>2,879.667 3</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.2 Demo/Site Prep - Phase Strand Area - 2025**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0561	0.0342	0.4182	1.3500e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		140.5842	140.5842	3.4900e-003	3.7100e-003	141.7778
<b>Total</b>	<b>0.0561</b>	<b>0.0342</b>	<b>0.4182</b>	<b>1.3500e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>140.5842</b>	<b>140.5842</b>	<b>3.4900e-003</b>	<b>3.7100e-003</b>	<b>141.7778</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3268	10.4618	14.5151	0.0302		0.4130	0.4130		0.4016	0.4016	0.0000	2,867.874 4	2,867.874 4	0.4717		2,879.667 3
<b>Total</b>	<b>1.3268</b>	<b>10.4618</b>	<b>14.5151</b>	<b>0.0302</b>	<b>0.0000</b>	<b>0.4130</b>	<b>0.4130</b>	<b>0.0000</b>	<b>0.4016</b>	<b>0.4016</b>	<b>0.0000</b>	<b>2,867.874 4</b>	<b>2,867.874 4</b>	<b>0.4717</b>		<b>2,879.667 3</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.2 Demo/Site Prep - Phase Strand Area - 2025**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0561	0.0342	0.4182	1.3500e-003	0.1780	7.7000e-004	0.1787	0.0472	7.1000e-004	0.0479		140.5842	140.5842	3.4900e-003	3.7100e-003	141.7778
<b>Total</b>	<b>0.0561</b>	<b>0.0342</b>	<b>0.4182</b>	<b>1.3500e-003</b>	<b>0.1780</b>	<b>7.7000e-004</b>	<b>0.1787</b>	<b>0.0472</b>	<b>7.1000e-004</b>	<b>0.0479</b>		<b>140.5842</b>	<b>140.5842</b>	<b>3.4900e-003</b>	<b>3.7100e-003</b>	<b>141.7778</b>

**3.3 Pipeline Install (trench) - Phase Strand Area - 2025**

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					4.5800e-003	0.0000	4.5800e-003	6.9000e-004	0.0000	6.9000e-004			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259		2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>4.5800e-003</b>	<b>0.5553</b>	<b>0.5599</b>	<b>6.9000e-004</b>	<b>0.5259</b>	<b>0.5266</b>		<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>



Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.3 Pipeline Install (trench) - Phase Strand Area - 2025**

**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	7.6500e-003	0.4900	0.1034	1.8500e-003	0.0542	3.9500e-003	0.0582	0.0149	3.7800e-003	0.0187		202.1036	202.1036	7.6700e-003	0.0321	211.8470
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0717	0.0437	0.5343	1.7200e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		179.6354	179.6354	4.4500e-003	4.7400e-003	181.1605
<b>Total</b>	<b>0.0793</b>	<b>0.5337</b>	<b>0.6377</b>	<b>3.5700e-003</b>	<b>0.2816</b>	<b>4.9400e-003</b>	<b>0.2866</b>	<b>0.0752</b>	<b>4.6900e-003</b>	<b>0.0799</b>		<b>381.7390</b>	<b>381.7390</b>	<b>0.0121</b>	<b>0.0368</b>	<b>393.0075</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0600e-003	0.0000	2.0600e-003	3.1000e-004	0.0000	3.1000e-004			0.0000			0.0000
Off-Road	1.4663	12.5046	15.6562	0.0308		0.5553	0.5553		0.5259	0.5259	0.0000	2,932.9938	2,932.9938	0.6508		2,949.2641
<b>Total</b>	<b>1.4663</b>	<b>12.5046</b>	<b>15.6562</b>	<b>0.0308</b>	<b>2.0600e-003</b>	<b>0.5553</b>	<b>0.5573</b>	<b>3.1000e-004</b>	<b>0.5259</b>	<b>0.5262</b>	<b>0.0000</b>	<b>2,932.9938</b>	<b>2,932.9938</b>	<b>0.6508</b>		<b>2,949.2641</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.3 Pipeline Install (trench) - Phase Strand Area - 2025**

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	7.6500e-003	0.4900	0.1034	1.8500e-003	0.0542	3.9500e-003	0.0582	0.0149	3.7800e-003	0.0187		202.1036	202.1036	7.6700e-003	0.0321	211.8470
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0717	0.0437	0.5343	1.7200e-003	0.2274	9.9000e-004	0.2284	0.0603	9.1000e-004	0.0612		179.6354	179.6354	4.4500e-003	4.7400e-003	181.1605
<b>Total</b>	<b>0.0793</b>	<b>0.5337</b>	<b>0.6377</b>	<b>3.5700e-003</b>	<b>0.2816</b>	<b>4.9400e-003</b>	<b>0.2866</b>	<b>0.0752</b>	<b>4.6900e-003</b>	<b>0.0799</b>		<b>381.7390</b>	<b>381.7390</b>	<b>0.0121</b>	<b>0.0368</b>	<b>393.0075</b>

**3.4 Paving/Ground Restoration - Phase Strand Area - 2025**

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	2.0762	16.0498	22.8673	0.0522		0.6544	0.6544		0.6245	0.6245		4,985.5124	4,985.5124	1.1490		5,014.2381
Paving	0.0603					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.1365</b>	<b>16.0498</b>	<b>22.8673</b>	<b>0.0522</b>		<b>0.6544</b>	<b>0.6544</b>		<b>0.6245</b>	<b>0.6245</b>		<b>4,985.5124</b>	<b>4,985.5124</b>	<b>1.1490</b>		<b>5,014.2381</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.4 Paving/Ground Restoration - Phase Strand Area - 2025**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0873	0.0532	0.6505	2.1000e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		218.6866	218.6866	5.4200e-003	5.7800e-003	220.5432
<b>Total</b>	<b>0.0873</b>	<b>0.0532</b>	<b>0.6505</b>	<b>2.1000e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>218.6866</b>	<b>218.6866</b>	<b>5.4200e-003</b>	<b>5.7800e-003</b>	<b>220.5432</b>

**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	2.0762	16.0498	22.8673	0.0522		0.6544	0.6544		0.6245	0.6245	0.0000	4,985.5124	4,985.5124	1.1490		5,014.2381
Paving	0.0603					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>2.1365</b>	<b>16.0498</b>	<b>22.8673</b>	<b>0.0522</b>		<b>0.6544</b>	<b>0.6544</b>		<b>0.6245</b>	<b>0.6245</b>	<b>0.0000</b>	<b>4,985.5124</b>	<b>4,985.5124</b>	<b>1.1490</b>		<b>5,014.2381</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**3.4 Paving/Ground Restoration - Phase Strand Area - 2025**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0873	0.0532	0.6505	2.1000e-003	0.2768	1.2100e-003	0.2780	0.0734	1.1100e-003	0.0745		218.6866	218.6866	5.4200e-003	5.7800e-003	220.5432
<b>Total</b>	<b>0.0873</b>	<b>0.0532</b>	<b>0.6505</b>	<b>2.1000e-003</b>	<b>0.2768</b>	<b>1.2100e-003</b>	<b>0.2780</b>	<b>0.0734</b>	<b>1.1100e-003</b>	<b>0.0745</b>		<b>218.6866</b>	<b>218.6866</b>	<b>5.4200e-003</b>	<b>5.7800e-003</b>	<b>220.5432</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive 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	1.5000e-004	7.0000e-005	6.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0157	0.0157	1.0000e-005	1.0000e-005	0.0179
Unmitigated	1.5000e-004	7.0000e-005	6.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0157	0.0157	1.0000e-005	1.0000e-005	0.0179

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.10	0.00	0.00	1	1
Total	0.10	0.00	0.00	1	1

**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
Other Asphalt Surfaces	0.02	5.00	5.00	100.00	0.00	0.00	100	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.492178	0.057147	0.202572	0.146456	0.036760	0.009141	0.008293	0.005994	0.000937	0.000362	0.032672	0.000959	0.006529

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

**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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**5.2 Energy by Land Use - NaturalGas**

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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive 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	4.7200e-003	1.0000e-005	1.0100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1600e-003	2.1600e-003	1.0000e-005		2.3000e-003
Unmitigated	4.7200e-003	1.0000e-005	1.0100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1600e-003	2.1600e-003	1.0000e-005		2.3000e-003

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**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	1.1300e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.5000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.0000e-005	1.0000e-005	1.0100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1600e-003	2.1600e-003	1.0000e-005		2.3000e-003
<b>Total</b>	<b>4.7200e-003</b>	<b>1.0000e-005</b>	<b>1.0100e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.1600e-003</b>	<b>2.1600e-003</b>	<b>1.0000e-005</b>		<b>2.3000e-003</b>



Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.1300e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.5000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	9.0000e-005	1.0000e-005	1.0100e-003	0.0000		0.0000	0.0000		0.0000	0.0000		2.1600e-003	2.1600e-003	1.0000e-005		2.3000e-003
<b>Total</b>	<b>4.7200e-003</b>	<b>1.0000e-005</b>	<b>1.0100e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>2.1600e-003</b>	<b>2.1600e-003</b>	<b>1.0000e-005</b>		<b>2.3000e-003</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Waterline Improvement Project - Phase Strand Area\_AQ - San Luis Obispo County APCD Air District, Winter

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

**8.0 Waste Detail**

---

**8.1 Mitigation Measures Waste**

**9.0 Operational Offroad**

---

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

**10.0 Stationary Equipment**

---

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

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

**11.0 Vegetation**

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# Appendix B

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Biological Resources Assessment/Biological Evaluation



# Oceano Community Services District Waterline Improvement Project

## Biological Resources Assessment/Biological Evaluation

*prepared for*

**Oceano Community Services District**

1655 Front Street

Oceano, California 93475

*prepared by*

**Rincon Consultants, Inc.**

1530 Monterey Street, Suite D

San Luis Obispo, California 93401

**April 2024**

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Appendix A	Regulatory Setting
Appendix B	Special Status Species Evaluation Tables
Appendix C	Site Photographs
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# Executive Summary

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This Biological Resources Assessment/Biological Evaluation (BRA/BE) report has been prepared for the Oceano Community Services District (OCSD) Waterline Improvement Project (“project” or “Proposed Action”) to analyze potential impacts to regulated biological resources, provide recommendations to avoid, minimize, and/or mitigate these impacts, and to identify any additional surveys or permits that will be required prior to the initiation of the project. The report was developed to support California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) environmental reviews and was prepared in accordance with the *Guidelines for Biological Resource Assessments – Guidelines for Biological Consultants* (San Luis Obispo County 2016).

The project is located within the unincorporated communities of Oceano and Halcyon in San Luis Obispo County (County), California. The western portion of the project is located within the Coastal Zone. The project site is comprised of multiple sections of OCSD’s existing pipeline alignment in need of replacement. The project consists of repairs and upgrades to the existing OCSD water system to provide adequate fire flow and service pressure.

The 16.44-acre Biological Study Area (BSA) includes the sections of the existing pipeline alignment in need of repair or replacement and new pipeline sections (project site and a 25-foot buffer on either side). For the purpose of this BRA/BE, the BSA also encompasses the Action Area, which includes all areas in which federally listed species could be directly and indirectly affected by the Proposed Action. Rincon Consultants, Inc. (Rincon) conducted a literature review and field reconnaissance survey of the BSA for the presence, or potential presence, of regulated biological resources.

Five vegetation and land cover types were observed within the BSA during the field reconnaissance survey, including developed/disturbed, ornamental/landscaped, silver dune lupine – mock heather scrub, ice plant mats, and arroyo willow thickets.

Three freshwater forested/shrub wetland features associated with Oceano Lagoon are located within the BSA. All of these features are located outside of the project site; therefore, no direct effects to these features are expected to occur. Indirect effects to these features will be avoided/minimized through implementation of proposed avoidance and minimization measures (AMMs).

Three species listed as federally endangered, threatened, or candidate species under the Endangered Species Act (ESA) have potential to occur within the BSA, including La Graciosa thistle (*Cirsium scariosum* var. *loncholepis*), monarch butterfly – California overwintering population (*Danaus plexippus* pop. 1), and California red-legged frog (*Rana draytonii*). Other special status species with potential to occur in the BSA that are not currently federally listed include 11 plant species and five wildlife species. Project-related impacts to these species will be avoided/minimized through implementation of proposed AMMs.

# 1 Introduction

---

Rincon prepared this Biological Resources Assessment/Biological Evaluation (BRA/BE) to document the existing conditions within the project site, evaluate the potential for project-related impacts to biological resources, and recommend measures to avoid, minimize, and mitigate impacts to such resources prior to, during, and following implementation of the Oceano Community Services District (OCSD) Waterline Improvement Project (“project” or “Proposed Action”).

The purpose of the BRA component of this document is to provide technical information and to review the project in sufficient detail to determine the extent the project may impact special status species and sensitive natural communities. Specifically, the BRA component was prepared to meet the requirements of the California Environmental Quality Act (CEQA) environmental review process for biological resources and to facilitate issuance of State permits and authorizations.

The purpose of the BE component of this document is to provide technical information and to review the Proposed Action in sufficient detail to determine the extent the Proposed Action may affect species that are federally listed as threatened or endangered, or proposed as threatened or endangered, and/or federally- designated critical habitat for these species. In addition, federal funding through the United States Department of Agriculture (USDA) is being sought by the OCSD for development of the Proposed Action. Therefore, the BE component was prepared to assist the USDA with National Environmental Policy Act (NEPA) compliance.

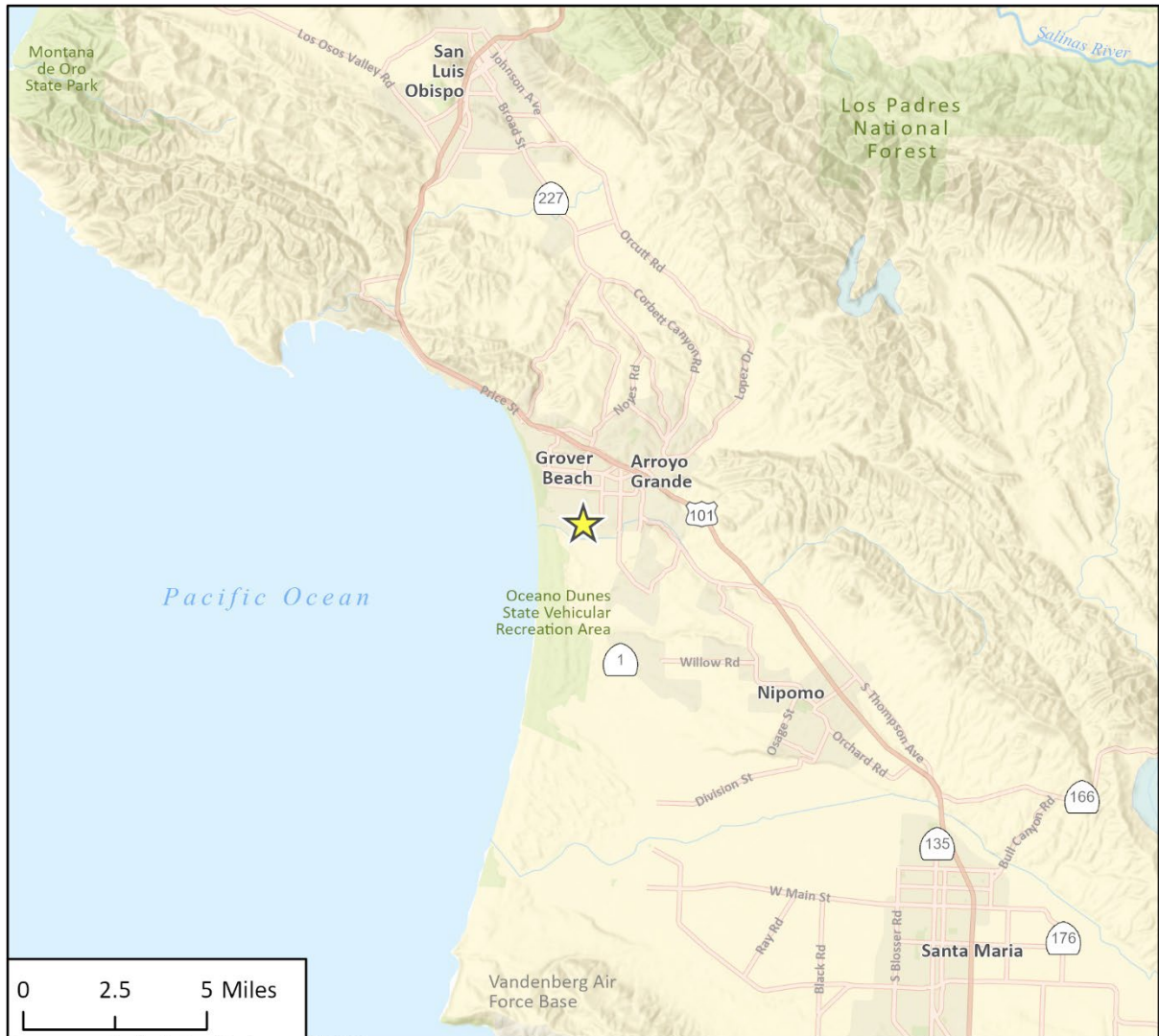
## 1.1 Project Location

The OCSD water system is located in San Luis Obispo County (County), extending approximately 2.3 miles from the western boundary of the unincorporated community of Oceano to the eastern boundary of the unincorporated community of Halcyon. The western portion of the project is located within the Coastal Zone. The project site is comprised of multiple sections of the existing pipeline alignment in need of replacement throughout the OCSD. Figure 1 shows the regional location of the project and Figure 2 shows the pipeline segments included in the project.

The project site is mostly located within the public right-of-way (ROW) within paved roads and dirt shoulders; however, some portions of the project would require easements across private property.



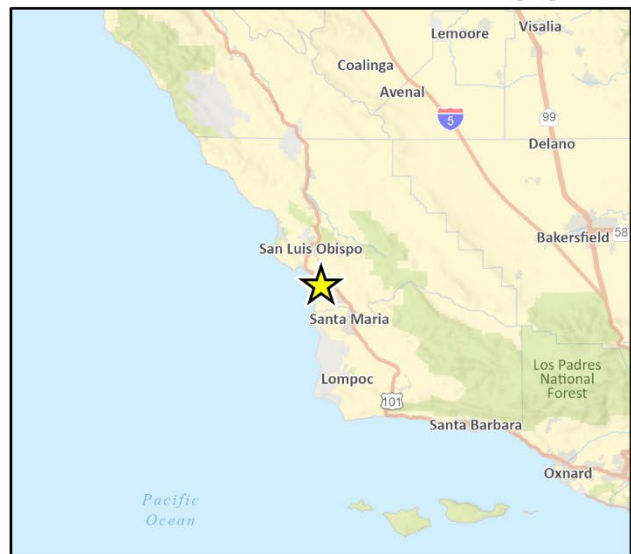
Figure 1 Regional Location Map



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22-13146 Waterline Improvement  
Fig 1. Regional Location

★ Project Location



**Figure 2 Project Location Map**



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22-13146 Waterline Improvement  
 Fig 2 Project Location Landscape V2

## 1.2 Project Description/Description of the Proposed Action

OCS D is a multi-service special district providing fire protection, sewer collection and water services, solid waste, parks and recreation, and street lighting to residents and businesses in the communities of Oceano and Halcyon in San Luis Obispo County, California. OCS D currently provides water service to approximately 2,200 connections through a water system comprised of approximately 22.5 miles of pipelines. The existing pipelines vary in age from recently installed to almost 70 years old.

Although a portion of the OCS D's water system was installed or replaced in the 1980s and 1990s, several water mains<sup>1</sup> in the existing system are approaching the end of their useful life expectancy. These outdated pipelines are at risk of breakage and leakage. Furthermore, the existing pipeline system contains sections of undersized pipelines that do not provide adequate fire flow at the minimum operational pressure of 20 pound-force per square inch. There are also an estimated 25 dead ends<sup>2</sup> reported in the existing pipeline system.

To address the deficiencies described above, the OCS D CIP identifies specific pipeline projects needed to upgrade and repair the system. The CIP ranks each project as either Priority 1, 2, or 3.

The project consists of Priority 1, 2, and 3 repairs and upgrades selected from the CIP, as shown in Table 1 below and Figure 2.

The project includes the following components, which would be installed within the existing ROW on previously disturbed surfaces:

- Installation of new pipeline main sections;
- Replacement of existing main pipeline sections with upsized pipes;
- Extension of dead-end pipeline to form pipeline loops;
- Installation of an emergency intertie with the City of Arroyo Grande system (at the intersection of Halcyon and The Pike); and
- Replacement and installation of control valves in the pipeline system.

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<sup>1</sup> A water main is a primary underground pipe in a municipal water distribution system.

<sup>2</sup> A pipeline dead end is a pipe that is completely closed off.

Oceano Community Services District  
**Oceano Community Services District Waterline Improvement Project**

**Table 1 CIP Segments List**

Segment No.	Description	Existing Diameter (inch)	Proposed Diameter (inch)	Length (LF)	Construction Method
1-2	Cabrillo Highway and Front Street	–	8	400	Open Cut
1-3	22nd Street at Paso Robles Street	–	8	225	Open Cut
1-4	Truman Drive	4	8	250	Open Cut
1-5	Railroad Street Alley (Truman Drive to Air Park)	4, 6	10	1,000	Open Cut
1-7	Strand Way (South of Utah Avenue)	4	8	235	Open Cut
1-8	Laguna Drive Alley (South of Utah Avenue)	4	8	130	Open Cut
1-10	Utah Avenue Alley (Strand Way to Utah Avenue)	3	8	195	Open Cut
1-11	Pershing Drive across SR 1	–	8	200	Jack and Bore
2-1	Pier Avenue (Lakeside to SR 1)	6	10	1,140	Open Cut
2-2	Norswing Drive Loop (North of Pier Avenue)	4 <sup>1</sup>	8	1,750	Open Cut
2-3	Railroad Street (Creek Road to 17 <sup>th</sup> Street)	–	8	650	Jack and Bore
2-4	Creek Road (Sand Dollar to Railroad Street)	–	8	480	Open Cut
2-5	16th Street at Warner Street	2, 4, 6	8	940	Open Cut
2-6	14 <sup>th</sup> Street at Wilmar Avenue	2	8	380	Open Cut
2-7	Vista Street (19 <sup>th</sup> Street to 21 <sup>st</sup> Street)	2	8	480	Open Cut
2-8	Warner Street (19 <sup>th</sup> Street to 21 <sup>st</sup> Street)	2	8	480	Open Cut
2-9	South 4th Street Upgrade	2	8	200	Open Cut
2-10	Temple Street and Halcyon Road	–	12	1,075	Open Cut
3-1	La Verne Avenue (22 <sup>nd</sup> Street to 23 <sup>rd</sup> Street)	4	8	500	Open Cut
3-2	23rd Street at Wilmar Avenue	4	8	300	Open Cut
3-3	18 <sup>th</sup> Street at Wilmar Avenue	4	8	40	Open Cut
3-4	Laguna Drive Alley (Utah Avenue to Strand Way)	4	8	940	Open Cut
3-5	Utah Avenue Alley (York Avenue to Utah Avenue)	3	8	195	Open Cut
3-6	Rochelle Way Loop	–	8	200	Open Cut
3-7	Security Court at Sunset Lane	2	8	280	Open Cut
3-8	21 <sup>st</sup> Street at River Avenue	–	8	690	Open Cut
3-9	La Vista Court at The Pike	4	8	425	Open Cut
3-10	Lancaster Drive at The Pike	4	8	1,150	Open Cut
3-11	Trinidad Dive at Martinique Drive	4	8	300	Open Cut
<b>Total Linear Feet</b>				<b>15,230</b>	

<sup>1</sup> In this segment, the project would replace/upsized a portion of existing pipeline and also install a portion of new pipeline.

## 1.2.1 Construction

Project construction would utilize a combination of open-cut trenching and trenchless jack-and-bore construction techniques. The following is a general description of each phase of construction:

- **Site Preparation.** The existing pavement along the pipeline alignment would be cut with a concrete saw or otherwise broken and removed using jackhammers, pavement breakers, and loaders. Other similar equipment may be used. The pavement would then be removed from the project site and recycled or disposed of at an appropriate facility.
- **Pipeline Installation (open-cut trenching).** Open-cut trenching typically consists of trench excavation (including saw cutting of pavement where applicable), shoring to stabilize the pipe bed, pipe installation, and backfilling. Construction usually progresses along the alignment with the maximum length of open trench at one time being approximately 500 ft. in length.
- **Pipeline Installation (jack-and-bore).** Jack-and-boring, or trenchless installation, typically consists of excavation of the launching and receiving pits (including saw cutting of pavement where applicable), installation of the shoring system and boring equipment, installation of steel casing and pipeline, removal of equipment, and backfilling. The trenchless installation would be performed by operating a crane to lower and remove equipment and materials.
- **Paving/Ground Restoration.** Any portion of the roadway or landscaped areas damaged by construction activities would be repaved or restored in accordance with all applicable Arroyo Grande or County standards. Once the pavement has been restored, traffic delineation (striping) would also be restored.

The project would result in approximately 76,150 square ft., or approximately 1.75 acres, of ground disturbance, and a typical maximum excavation depth of up to 5 ft. Where the pipeline would need to cross below an existing utility or drainage channel, the depths may be greater and would depend on the characteristics of the utility or channel.

Construction activities are anticipated to excavate approximately 6,000 cubic yards (cy) of pavement and soil, 3,000 cy of which would be temporarily stockpiled on site and used as backfill upon completion of pipeline installation. Generally, trench spoils would be temporarily stockpiled within the construction staging and storage area adjacent to each pipeline segment. However, storage of supplies, materials, and equipment would ultimately depend on the contractor and subcontractors. Approximately 2,400 cy of soil would be imported from off-site. The remaining 3,000 cy of excavated soil would be hauled away for re-use or disposal at an appropriately licensed facility.

If groundwater dewatering is required based on site conditions, groundwater would be discharged into either: 1) the storm drain, 2) the sanitary sewer, or 3) nearby existing recharge, retention, or detention basins. The project would adhere to applicable rules and regulations related to discharge, including the County of San Luis Obispo National Pollutant Discharge Elimination System (NPDES) Permit as well as discharge requirements established by the South San Luis Obispo County Sanitation District. The project would not discharge dewatered groundwater into storm drains leading to Arroyo Grande Creek or other local surface freshwater bodies if practicable. If groundwater must be dewatered into storm drains discharging to local surface water bodies, dewatered groundwater would be temporarily stored in baker tanks and water quality would be tested prior to discharge, consistent with permit requirements.

## 1.3 Regulatory Summary

Regulated or sensitive resources studied and analyzed herein include special status plant and wildlife species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, regionally protected resources (e.g., from county-wide Habitat Conservation Plans [HCPs] and Natural Community Conservation Plans [NCCPs]), and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by federal, state, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, the OCSD).

### 1.3.1 Definition of Special Status Species

For the purposes of this report, special status species include:

- Species listed as threatened or endangered under the Federal Endangered Species Act (FESA); including proposed and candidate species
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act (CESA)
- Species designated as Fully Protected by the California Fish and Game Code (CFGC), and Species of Special Concern or Watch List by the California Department of Fish and Wildlife (CDFW)
- Native Plant Protection Act (NPPA) – State Rare (SR)
- California Native Plant Society (CNPS) California Rare Plant Ranks (CRPR) 1A, 1B, 2A and 2B
- Eagles protected by the Bald and Golden Eagle Protection Act
- Birds protected by the Migratory Bird Treaty Act (MBTA)
- Species designated as sensitive by the U.S. Forest Service or Bureau of Land Management, if the project would affect lands administered by these agencies
- Species designated as locally important by the Local Agency and/or otherwise protected through ordinance, local policy, or HCPs/NCCPs

### 1.3.2 Environmental Statutes

For the purpose of this report, potential impacts to biological resources were analyzed based on the following statutes (Appendix A):

- NEPA
- CEQA
- FESA
- CESA
- Federal Clean Water Act (CWA)
- CFGC
- MBTA
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act
- Magnuson-Stevens Fishery Conservation and Management Act

- California Coastal Act
- San Luis Obispo County General Plan
- Oceano Specific Plan

### 1.3.3 Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the CEQA Guidelines Appendix G Initial Study Checklist, were used to evaluate potential environmental effects. Based on these criteria, the project would have a significant effect on biological resources if it would:

- a) *Have substantial adverse effects, 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.*
- b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.*
- c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*
- d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.*
- e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.*
- 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.*

## 2 Methodology

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Methods used to develop this BRA/BE included a literature review and desktop evaluation of existing aerial imagery and published datasets, as well as a field reconnaissance survey to document existing site conditions and to evaluate the potential for presence of special status species and their habitats, as well as other sensitive biological resources.

### 2.1 Biological Study Area/Action Area

Rincon biologists conducted the field reconnaissance survey within the Biological Study Area (BSA), defined for this project as the pipeline segments and a 25-foot buffer on either side (Figure 3a through Figure 3c). The BSA is approximately 16.44 acres in total area, and the pipeline alignment is entirely within paved roads. Several portions of the BSA were inaccessible during the field reconnaissance survey due to private property concerns (mostly residential); these areas were assessed to the extent feasible from public sidewalks and walkways, or by using binoculars.

Relevant to the analysis of effects to federally listed species, the BSA is also considered as the “Action Area,” which is the geographic area encompassing all the physical, chemical, and biological changes that will occur directly or indirectly from the Proposed Action as defined in 50 Code of Federal Regulations (CFR) 402.02. The Action Area includes all areas in which federally listed species would be directly and indirectly affected by the Proposed Action. Similar to the BSA, the Action Area includes all work areas for construction activities associated with pipeline repairs and upgrades and an associated 25-foot buffer. For the purpose of this BRA/BE, the Action Area is considered the equivalent of the BSA and will be referred to as such throughout the BRA/BE.

### 2.2 Literature Review

Rincon conducted a literature review to characterize the nature and extent of biological resources on and adjacent to the BSA. The literature review included an evaluation of current and historical aerial photographs of the site (Google Earth Pro 2022), regional and site-specific topographic maps, and climatic data.

Queries of the CDFW California Natural Diversity Database (CNDDDB; 2022a), and CNPS online Inventory of Rare and Endangered Plants of California (2022) were conducted to obtain comprehensive information regarding state and federally listed species, and other special status species, considered to have potential to occur within the *Oceano, California* United States Geological Survey (USGS) 7.5-minute topographic quadrangle and the surrounding seven quadrangles (Pismo Beach, Arroyo Grande NE, Tar Spring Ridge, Nipomo, Santa Maria, Guadalupe, and Point Sal). An official list of federally listed species with potential to occur within the BSA was obtained from the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation system (IPaC; USFWS 2022a). The results of database queries and lists of special status species were reviewed by Rincon’s regional biological experts for accuracy and completeness. The final list of special status biological resources (species and sensitive natural communities) was evaluated based on documented occurrences within the nine-quadrangle search area and biologists’ expert opinions on species known to occur in the region. The evaluation results and justification were compiled into a table (Appendix B).



Figure 3a Biological Study Area

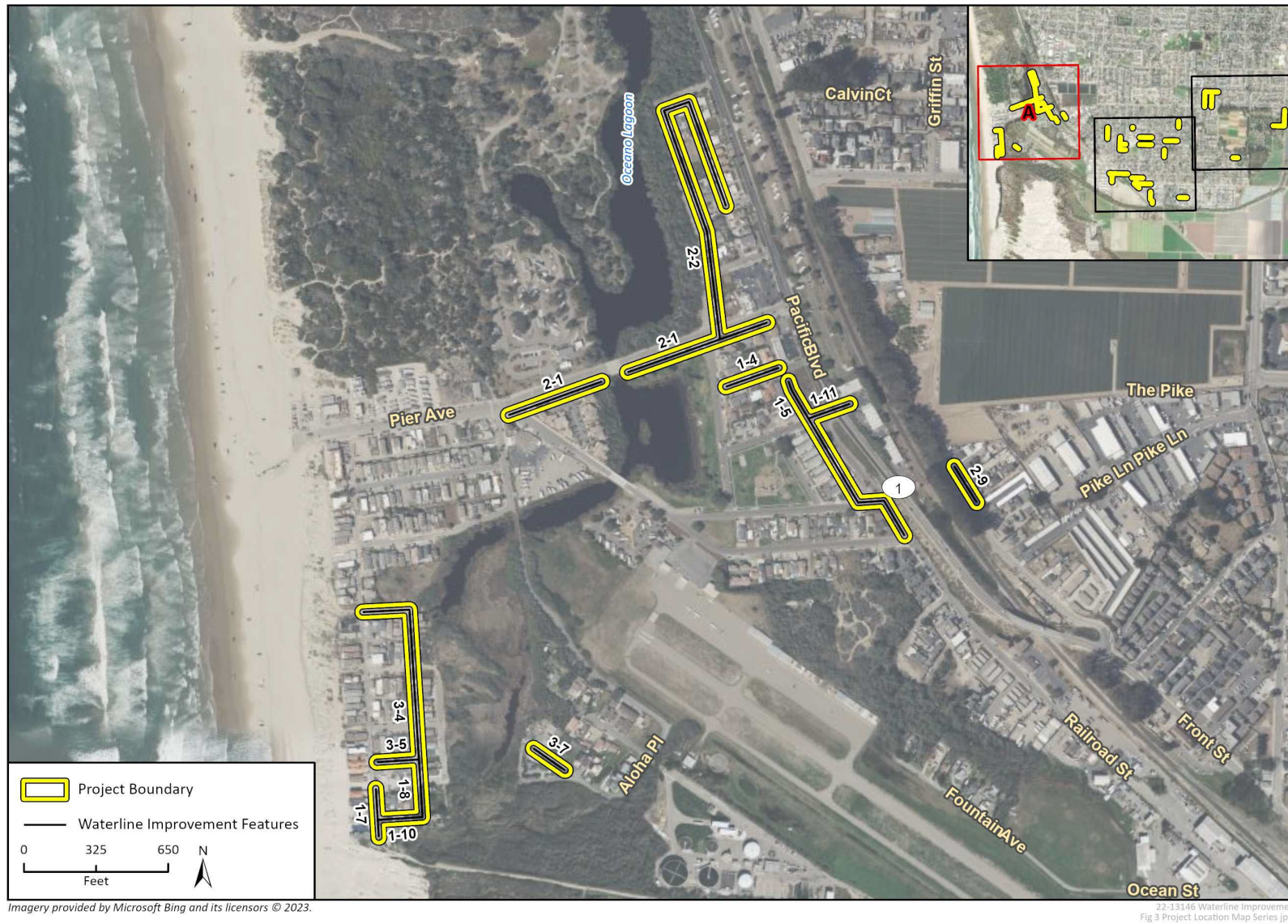
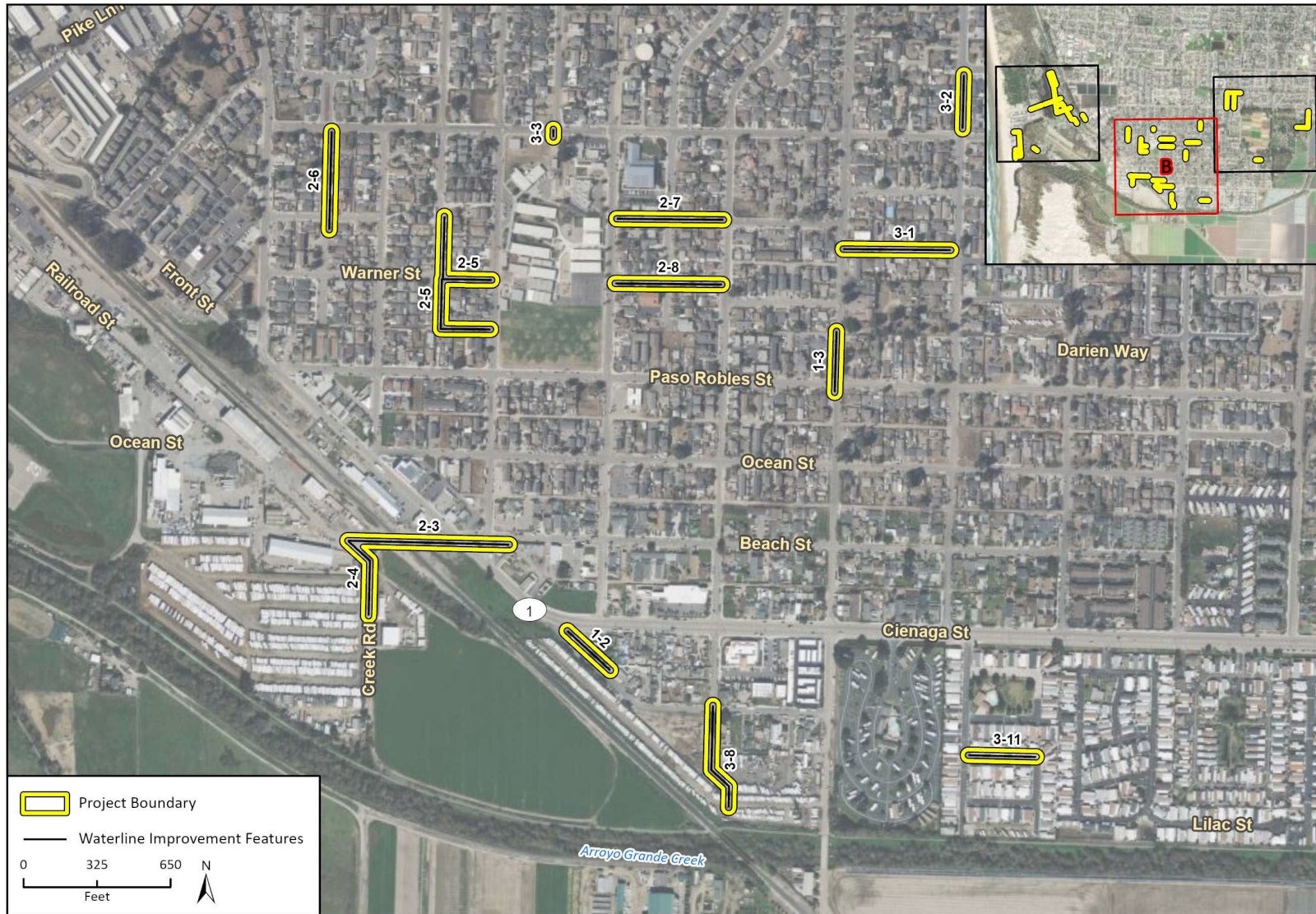


Figure 3b Biological Study Area



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22-13146 Waterline Improvement  
Fig 3 Project Location Map Series.jpeg

Figure 3c Biological Study Area



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22-13146 Waterline Improvement  
Fig 3 Project Location Map Series.jpeg

The following resources were reviewed for additional information on existing conditions relating to biological resources within the BSA:

- USDA, Natural Resources Conservation Service (NRCS) Web Soil Survey (2022a)
- USFWS Critical Habitat Portal (2022b)
- CDFW Special Animals List (2022c)
- CDFW Special Vascular Plants, Bryophytes, and Lichens List (2022d)
- CDFW Biogeographic Information and Observation System (CDFW 2022e)

The vegetation community characterizations for this analysis were based on the classification systems presented in *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009).

The potential for wildlife movement corridors was evaluated based on the California Essential Habitat Connectivity Project commissioned by the California Department of Transportation and CDFW (CEHC; Spencer et al. 2010). The San Luis Obispo County General Plan Conservation and Land Use Element was also reviewed for information regarding locally important wildlife movement corridors.

## 2.3 Field Reconnaissance Survey

A field reconnaissance survey was conducted to document the existing site conditions and to evaluate the potential presence of sensitive biological resources, including special status plant and animal species, sensitive plant communities, potentially jurisdictional wetlands and aquatic resources, and habitat for federally and state protected species. The survey was conducted by Rincon biologists Dustin Groh and Frances Glaser on November 17, 2022, between 9:30 AM and 3:30 PM. Weather conditions during the survey included temperatures between 50 and 62 degrees Fahrenheit (°F), calm winds up to five miles per hour, and clear to partly cloudy skies.

The survey was conducted primarily by driving along the existing pipeline alignment, with stops as necessary to evaluate potential sensitive resources. Most of the BSA was accessible and was evaluated on foot or from a vehicle, as necessary. Portions of the BSA located on private property or behind fences were surveyed from adjacent accessible areas, using 10x25 binoculars.

Biological resources observed in the BSA were recorded, including plant and wildlife species. Plant species nomenclature and taxonomy follows *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012).

## 2.4 Impact Evaluation

Impacts are defined as project-related activities that destroy, damage, alter, or otherwise affect biological resources. This may include injury or mortality to plant or wildlife species, effects on an animal's behavior (such as through harassment or frightening off an animal by construction noise), as well as the loss, modification, or disturbance of natural resources or habitats. Impacts are defined as either direct or indirect, and either permanent or temporary.

Direct impacts are generally those that occur during project implementation and at the same time and location as the cause of the impact. Direct impacts for this project may include injury, death, and/or harassment of special status wildlife species, if present in the project site or vicinity. Direct impacts may also include the destruction of vegetation communities necessary for special status

species breeding, feeding, or sheltering. Direct impacts to plants can include crushing of plants, bulbs, or seeds where present in the impact areas.

Indirect impacts are those that are reasonably foreseeable and caused by a project but occur later in time and/or potentially at locations of some distance from the source of the impact. If a direct physical change in the environment in turn causes another change in the environment, then the other change is an indirect impact. Specific examples for this project may include soil compaction that, in the future, following completion of the project, prevents wildlife from digging burrows or allows weedy plant species to thrive. Other examples may include dust that drifts outside of project disturbance areas and covers native plants, thereby decreasing their photosynthetic capacity, and unintentional introduction of invasive species (particularly weedy plant species that outcompete native plant species) that over time negatively affect the local ecology.

Permanent impacts are those that result in the long-term or irreversible loss of biological resources are considered permanent. For example, construction of a new water pump substation, which would result in a large, developed, and fenced property where native vegetation may have existed before, would be a permanent impact.

Temporary impacts to biological resources are those that are reversible over time, with or without implementation of avoidance and minimization measures (AMMs). Examples include the generation of fugitive dust and noise during project implementation, trimming or crushing vegetation that will regrow following project completion, and removed vegetation that will be actively restored. These temporary impacts are anticipated to last during project implementation and shortly thereafter. However, the biological resources are anticipated to return to baseline after project completion.

## 3 Existing Conditions

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This section summarizes the existing biological conditions of the BSA and results of biological resource database inquiries and field surveys. Brief discussions regarding the general physical characteristics within the BSA are presented below. Representative photographs of the BSA are provided in Appendix C, and complete lists of all plant and wildlife species observed within the BSA are presented in Appendix D.

### 3.1 Physical Characteristics

Physical characteristics of the BSA, including topography and geography, watershed and drainages, groundwater, and soils are described in Sections 3.1.1 through 3.1.4 below.

#### 3.1.1 Topography and Geography

The BSA is situated in a region that is characterized by a Mediterranean climate with warm, dry summers and cool, wet winters. Average high temperatures range from 63 to 72°F and average low temperatures range from 42 to 53°F. The average annual precipitation for the region is 16.96 in. with the majority falling in January (Western Regional Climate Center 2022).

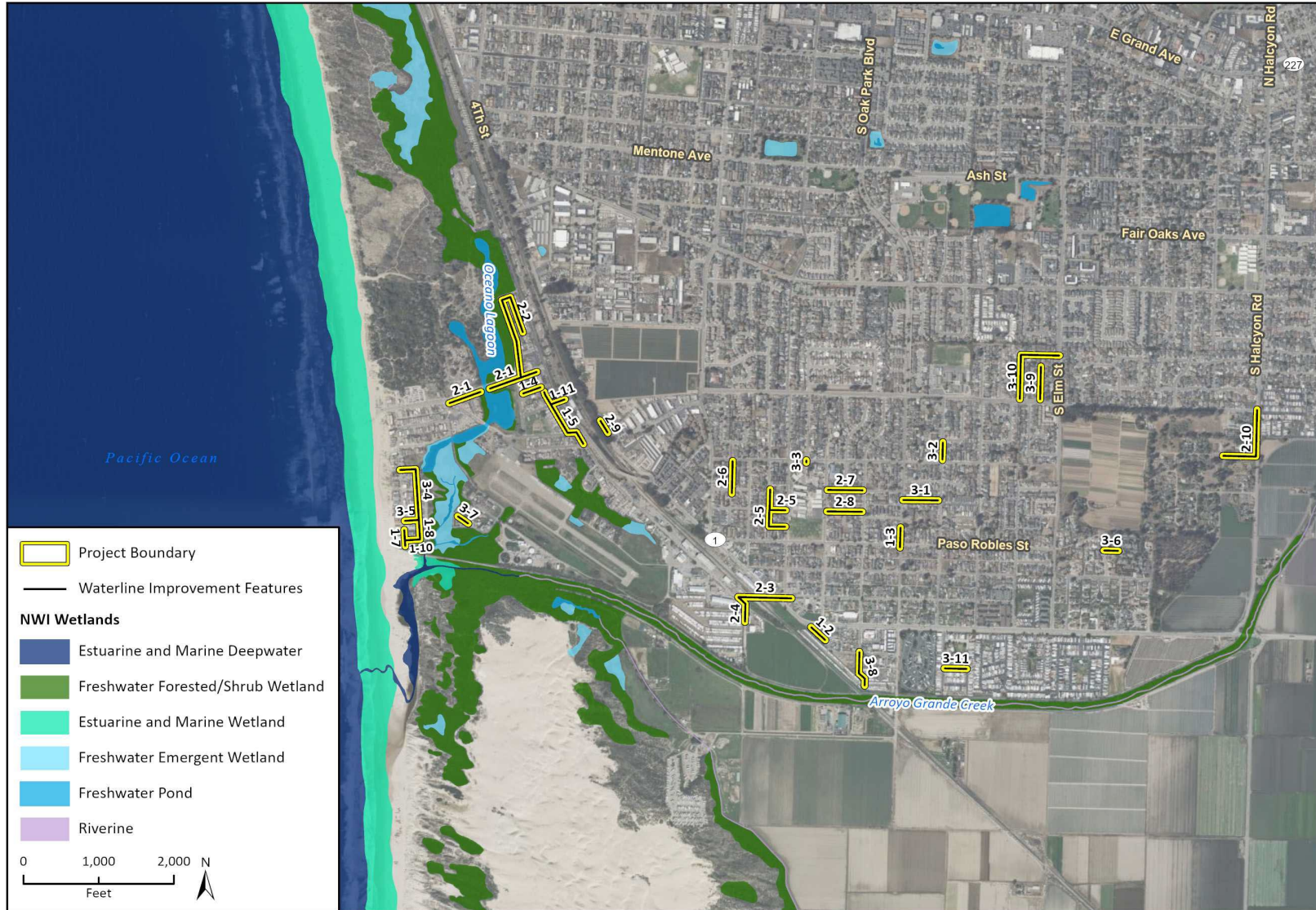
The topography of the BSA is generally level, as it follows the contours of developed roadways. The elevation ranges between approximately 0 and 120 ft. above mean sea level (amsl). The elevation is highest in the northeastern portion of the BSA along Segment 3-10, and lowest in the western portion of the BSA along Segment 3-7. Land uses surrounding the BSA include agricultural, recreation, and residential, commercial, and industrial development.

#### 3.1.2 Watershed and Drainages

The majority of the BSA is located within the Lower Arroyo Grande Creek Subwatershed (Hydrologic Unit Code 12 – 180600060605; USGS 2022). The northern portion of the BSA, including Segments 1-4, 1-5, 2-1, 2-2, 2-9 and portions of Segments 3-5 and 3-10, are located within the Meadow Creek – Frontal Pacific Ocean Subwatershed (Hydrologic Unit Code 12 – 180600060705; USGS 2022).

The National Wetlands Inventory (NWI) identifies three hydrologic features that occur within the BSA, all of which are permanent freshwater forested/shrub wetland (USFWS 2022c). None of these features are identified in the National Hydrography Dataset (NHD; USGS 2022). All the hydrologic features identified in the NWI are unnamed and located adjacent to Oceano Lagoon along Segments 2-1 and 2-2. The NWI depicts Meadow Creek and Arroyo Grande Creek, both of which are located just south of the BSA, as Estuarine and Marine Deepwater habitat. Figure 4 provides an overview of NWI features within the BSA and surrounding areas.

Figure 4 NWI Features



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 Additional data provided by U.S. Geological Survey National Hydrography Dataset, 2023.

22-13146 Waterline Improvement  
 Fig 5 NWI

### 3.1.3 Groundwater

Groundwater in the BSA is presumed to be hydrologically connected to surrounding water bodies, including Oceano Lagoon, which occurs adjacent to the BSA along Segments 2-1 and 2-2, as well as Meadow Creek Lagoon, Arroyo Grande Creek Lagoon, and the Pacific Ocean. Based on a review of State Water Resources Control Board (SWRCB) GeoTracker sites along Segment 1-2, groundwater in this portion of the BSA is expected to occur between 6 and 8 ft. below ground surface (bgs) (SWRCB 2023). In addition, a 2009 geotechnical investigation of the Oceano Dunes State Vehicular Recreation Area Visitor Center, which is located adjacent to Segment 2-1, indicated groundwater levels at 6 ft. bgs at that time (Geocon Consultants, Inc. 2009).

### 3.1.4 Soils

According to the USDA NRCS Web Soil Survey, the BSA contains 6 soil map units (Table 2; USDA NRCS 2022a). Four soil types within the BSA are classified as hydric soils, which are defined as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA NRCS 2022b). Site-specific soil observations are consistent with those mapped by the NRCS Web Soil Survey. The descriptions of the soil map units are described below.

**Table 2 Soil Units in the BSA**

Soil Unit Name	Hydric Soil Rating	Acreage
Psamments and Fluvents, wet	Yes	1.21
Mocho Fine Sandy Loam, 0 to 2 Percent Slopes, Major Land Resource Area (MLRA) 14	Yes	1.52
Oceano Sand, 0 to 9 Percent Slopes	No	10.66
Dune Land	Yes	2.61
Mocho Variant Fine Sandy Loam	Yes	1.52

#### **Psamments and Fluvents, Wet**

This soil map unit is designated as a hydric soil in San Luis Obispo County (USDA NRCS 2022b). Psamments and fluvents are very poorly drained soils that occur on basin floors and is derived of alluvium. A typical soil profile consists of loamy sand to a depth of 18 in., stratified loamy sand to loamy fine sand between 18 and 50 in., and loam from 50 to 60 in. Available water storage is low (about 5.0 in.) and the runoff class is very high.

#### **Mocho Fine Sandy Loam, 0 to 2 Percent Slopes, MLRA 14**

This soil map unit is designated as a hydric soil in San Luis Obispo County (USDA NRCS 2022b). Mocho fine sandy loam, 0 to 2 percent slopes, MLRA 14 is well-drained soil that occurs on alluvial fans, flats, and plains. It is formed in alluvium derived from sedimentary rock. A typical soil profile consists of fine sandy loam to a depth of 18 in., silty clay loam between 18 and 45 in., and stratified sand to gravelly sand between 45 and 60 in. Available water storage is moderate (about 7.7 in.) and the runoff class is low.



### Oceano Sand, 0 to 9 Percent Slopes

This soil map unit is not designated as a hydric soil in San Luis Obispo County (USDA NRCS 2022b). Oceano sand is excessively drained soil that occurs on beach dunes and is derived of Eolian deposits. A typical soil profile consists of sand from 0 to 60 in. Available water storage is low (about 4.2 in.) and the runoff class is negligible.

### Dune Land

This soil map unit is designated as a hydric soil in San Luis Obispo County (USDA NRCS 2022b). Dune land is excessively drained soil that occurs on beach dunes. It consists of 90 percent dune land soils and 9 percent other minor components. A typical profile consists of fine sand to a depth of 60 in. Available water storage is low and the runoff class is low.

### Mocho Variant Fine Sandy Loam

This soil map unit is designated as a hydric soil in San Luis Obispo County (USDA NRCS 2022b). Mocho variant fine sandy loam is a well-drained soil that occurs on alluvial fans and alluvial flats. It is formed in alluvium derived from sedimentary rock. A typical soil profile consists of fine sandy loam to a depth of 15 in., very fine sandy loam between 15 and 33 in., and stratified gravelly sand from 33 to 64 in. Available water storage is low (about 5.9 in.) and the runoff class is very low.

## 3.2 Vegetation and Other Land Cover

Three vegetation communities and two land cover types were identified within the BSA. Table 3 provides a summary of vegetation communities and land cover types present within the BSA. Figure 5a through Figure 5c provides an overview of these vegetation communities and land cover types. A list of plant species encountered during the field reconnaissance survey is provided in Appendix D.

**Table 3 Summary of Vegetation Communities and Land Cover Types Present**

Vegetation Community or Land Cover Type	Ranking	Acreage within BSA
Developed/Disturbed	–	15.64
Ornamental/Landscaped	–	0.33
Silver dune lupine – mock heather scrub	G3S2.2	0.21
Ice plant mats	GNASNA	0.20
Arroyo willow thickets	G4S4	0.06

### 3.2.1 Developed/Disturbed

Developed areas consist of residential, commercial, and industrial properties; paved areas and roadways; and gravel or hardpacked dirt road shoulders with little to no vegetation. Buildings and scattered ornamental vegetation, including residential yards, are included in this land cover type. This is the most abundant land cover type in the BSA (Figure 5a through Figure 5c).

**Figure 5a Vegetation Communities in the BSA**



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22-13146 Waterline Improvement  
 Fig 4 Vegetation Communities.jpeg

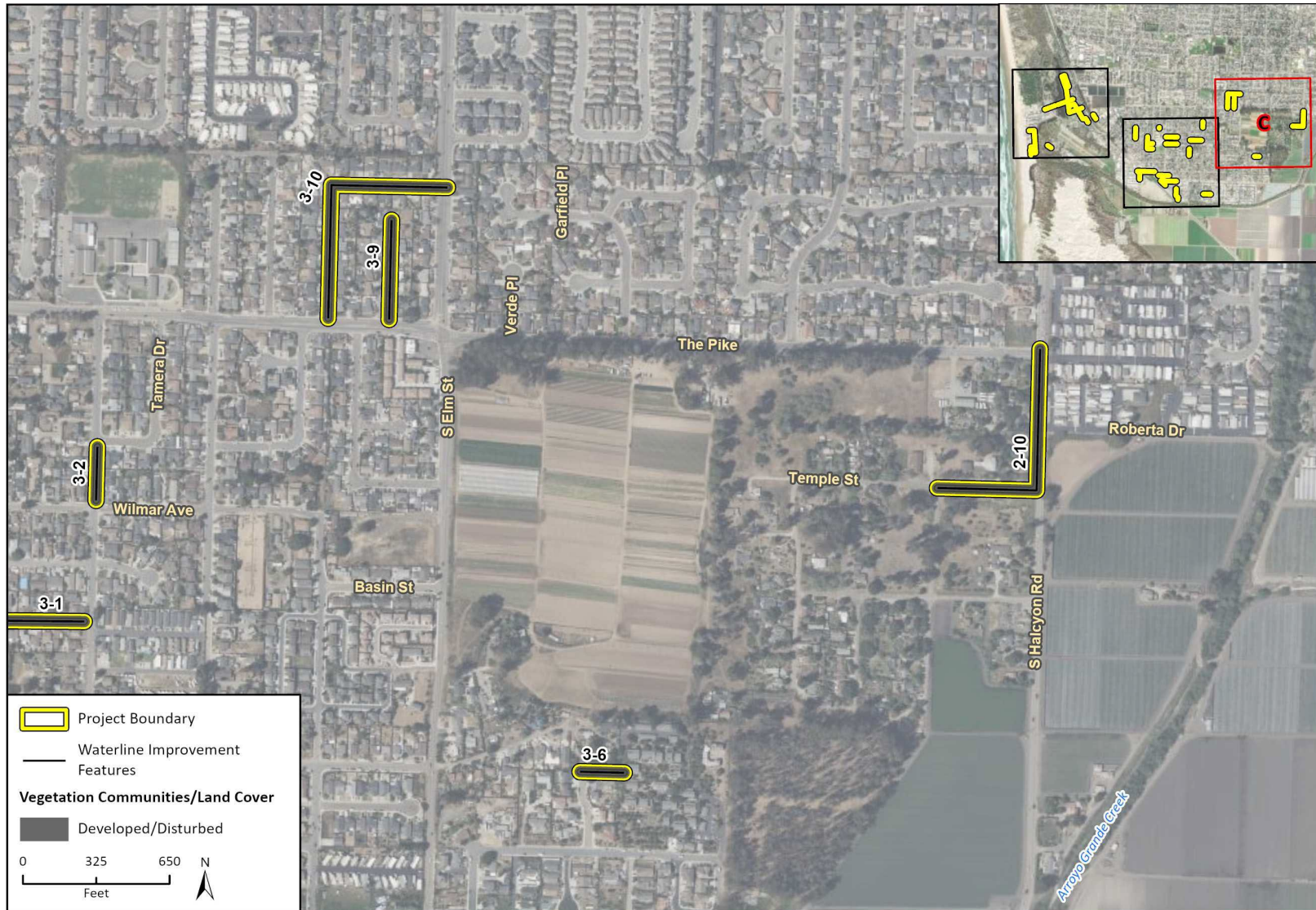
Figure 5b Vegetation Communities in the BSA



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Fig 4 Vegetation Communities.jpeg

Figure 5c Vegetation Communities in the BSA



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Fig 4 Vegetation Communities.jpeg

### 3.2.2 Ornamental/Landscaped

Ornamental or landscaped areas have been planted for the purpose of landscaping, generally with non-native species that require regular irrigation or other maintenance. Within the BSA, these areas are characterized by public or open areas with landscaped trees, shrubs, and lawns. Occasionally native trees are included in this land cover type. This land cover type occurs adjacent to developed/disturbed areas throughout the BSA (Figure 5a through Figure 5c).

### 3.2.3 Silver Dune Lupine – Mock Heather Scrub

Silver dune lupine - mock heather scrub (*Lupinus chamissonis* - *Ericameria ericoides* Shrubland Alliance) are typically found on stabilized dunes of coastal bars, river mouths, spits along coastlines, coastal bluffs, and terraces from sea level to 100 ft. (30 meters (m.)). Silver dune lupine (*Lupinus chamissonis*) and/or mock heather (*Ericameria ericoides*) are conspicuous, provide at least 50 percent absolute cover in the shrub canopy, or in combination with each other provide at least 30 percent relative cover with coyote brush (*Baccharis pilularis*) or yellow bush lupine (*Lupinus arboreus*). This vegetation community is ranked G3S3 and is classified as a CDFW sensitive natural community (CDFW 2022b).

In the BSA, this vegetation community occurs adjacent to paved roads and developed areas, with native coyote brush and telegraph weed (*Heterotheca grandiflora*) and non-native ice plant (*Carpobrotus edulis*) also present. The community is present within the BSA at the junction of Segments 1-5 and 1-11, and along the eastern side of Segment 3-4 (Figure 5a through Figure 5c).

### 3.2.4 Ice Plant Mats

Ice plant mats (*Mesembryanthemum* spp. – *Carpobrotus* spp. Herbaceous Semi-Natural Alliance) are typically found on bluffs, disturbed land, and sand dunes of the immediate coastline from sea level to 330 ft. (100 m.). Ice plant, common ice plant (*Mesembryanthemum crystallinum*), or other ice plant provide at least 80 percent absolute cover close to the coast or provide 50 percent relative cover on bluffs, dunes, or disturbed lands. This vegetation community is ranked GNASNA and is not a CDFW sensitive natural community (CDFW 2022b).

In the BSA, this vegetation community is dominated by ice plant. The community is present within the BSA at the junction of Segments 1-5 and 1-11, on the southern end of Segment 1-7, and within a vacant lot along Segment 2-2 (Figure 5a through Figure 5c).

### 3.2.5 Arroyo Willow Thickets

Arroyo willow thickets (*Salix lasiolepis* Shrubland Alliance) are typically found along stream banks and benches, slope seeps, and stringers along drainages from sea level to 7,120 ft. (2,170 m.) in elevation. Arroyo willow (*Salix lasiolepis*) provides at least 50 percent relative cover in the tree or shrub canopy, at least 25 percent absolute cover in the tree or shrub canopy, or at least 30 percent relative cover in the shrub canopy. This vegetation community is ranked G4S4 and is not classified as a sensitive natural community (CDFW 2022b).

In the BSA, this vegetation community occurs with California blackberry (*Rubus ursinus*) and poison oak (*Toxicodendron diversilobum*) in the shrub layer, with California manroot (*Marah fabacea*) also present. In some areas, scattered coast live oaks (*Quercus agrifolia*) are present within the tree layer. The sparse herbaceous layer includes tall cyperus (*Cyperus eragrostis*), spiny rush (*Juncus*

*acutus*), and bracken fern (*Pteridium aquilinum*). This community is present within the BSA adjacent to Oceano Lagoon, including Segment 2-1 (Figure 5a through Figure 5c).

### 3.3 General Wildlife

The BSA contains suitable habitat for various common wildlife species that occur along the central coast. Wildlife observed within the BSA during the field reconnaissance survey include bird species such as California scrub-jay (*Aphelocoma californica*), dark-eyed junco (*Junco hyemalis*), house finch (*Haemorhous mexicanus*), acorn woodpecker (*Melanerpes formicivorus*), Anna's hummingbird (*Calypte anna*), western bluebird (*Sialia mexicana*), and Townsend's warbler (*Setophaga townsendi*). Additionally, monarch butterflies (*Danaus plexippus*) were observed flying throughout the BSA. A complete list of plant and wildlife species observed within the BSA is included in Appendix D.

## 4 Sensitive Biological Resources

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Local, state, and federal agencies regulate special status species, and other sensitive biological resources. For this analysis, sensitive resources include special status plant and animal species, sensitive vegetation communities, potentially jurisdictional streams and wetlands, and wildlife corridors.

This section discusses special status species and sensitive biological resources observed in the BSA, and evaluates the potential for the BSA to support additional sensitive biological resources. Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDDB and other sources, species occurrence records from other sites in the vicinity of the survey area, previous reports for the BSA, and the results of surveys of the BSA. The potential for each special status species to occur in the BSA was evaluated according to the following criteria:

- **No Potential.** Habitat within and adjacent to the BSA is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on the site if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low Potential.** Few of the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present, and/or the majority of habitat within the BSA is unsuitable or of very poor quality. The species is not likely to be found in the BSA. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential.** Some of the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present, and/or only some of the habitat within the BSA is unsuitable. The species has a moderate probability of being found in the BSA.
- **High Potential.** All the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present and/or most of the habitat in the BSA is highly suitable. The species has a high probability of being found in the BSA.
- **Present.** Species is observed in the BSA or has been recorded (e.g., CNDDDB, other reports) in the BSA recently.

### 4.1 Federally Listed/Proposed Species

This section presents the approach used to determine the potential presence of listed and other species under USFWS jurisdiction, and the status, habitat requirements, and critical habitat of those species as applicable to the Proposed Action. The analysis indicates three listed or candidate species that have potential to occur in the BSA, including:

- La Graciosa thistle (*Cirsium scariosum* var. *loncholepis*)
- monarch – California overwintering population (*Danaus plexippus* pop. 1)
- California red-legged frog (*Rana draytonii*)

A total of 24 federally listed species were eliminated from further consideration either because suitable habitat for the species is not present, and/or the species range is well outside of the BSA. Table 4 provides a full list of federally listed species evaluated for the Proposed Action and includes listing status, ecological information, and potential for occurrence. Discussion of listed and candidate species with potential to occur are presented below.

One federal candidate species, monarch, was observed within the BSA during the field reconnaissance survey; however, all individuals were observed in flight and none were observed to be foraging or roosting within the BSA.

#### 4.1.1 La Graciosa Thistle

La Graciosa thistle – a federally endangered, state threatened, CRPR 1B.1 species – is a perennial herbaceous plant in the sunflower family (Asteraceae). This species grows in mesic or sandy areas within cismontane woodland, coastal dunes, coastal scrub, brackish marshes and swamps, and valley and foothill grassland habitats from southwestern San Luis Obispo County to northwestern Santa Barbara County. This species occurs between 15 and 720 ft. (4 to 220 m.). Federally designated critical habitat for La Graciosa thistle occurs approximately 0.1 mile south of the BSA, within the Oceano Dunes.

The BSA is located within this species' known elevational and geographic range. Potentially suitable coastal scrub habitat is present within the BSA at the junction of Segments 1-5 and 1-11 and along Segment 3-4; however, these areas are limited in size and of low quality, due to adjacency to the public ROW and associated edge effects. Multiple records of this species are located within the surveyed quadrangles, the most recent of which is from 2019 and is located approximately 1.8 miles south of the BSA (CDFW 2022a). This species was not observed during the field reconnaissance survey. This species has a low potential to occur within the BSA, with a higher potential to occur within the adjacent coastal scrub habitat located further from the BSA.

#### 4.1.2 Monarch – California Overwintering Population

The monarch – California overwintering population, a federal candidate species, roosts in eucalyptus (*Eucalyptus* spp.), Monterey pine (*Pinus radiata*), and cypress (*Hesperocyparis* spp.) groves along the California coast from Mendocino County to Baja California, Mexico. This species must have water and nectar sources located near their roosting sites (CDFW 2022a). The monarch overwintering period in California spans from September through March.

No suitable monarch overwintering habitat is present within the BSA; however, several eucalyptus groves located adjacent to the BSA are known monarch overwintering sites. Xerces Site #3066 is located approximately 300 ft. southwest of the BSA along Segment 2-10 and Xerces Site #3063 located approximately 700 ft. east of the BSA along Segment 2-2. Additional monarch overwintering sites located within a mile of the BSA include Xerces Sites #2031, #3064, #3065, #3067, and #3082 (CDFW 2022a). This species has a low potential to occur within the BSA as transient individuals traveling between overwintering sites or within landscaped areas.



**Table 4 Federally Protected Species and their Potential to be Affected by the Proposed Action**

Scientific Name Common Name	Federal Status	Habitat Requirements	Potential to Occur/ Basis for Determination
<b>Plants</b>			
<i>Arenaria paludicola</i> marsh sandwort	Endangered	Perennial stoloniferous herb. Marshes and swamps. Openings, sandy. Elevations: 10-560 ft. (3-170 m.) Blooms May-Aug.	<b>None.</b> No suitable marsh habitat is present within the BSA; therefore, the species is not expected to occur in the BSA. Potentially suitable marsh habitat for this species is located adjacent to the BSA and Segments 2-1 and 2-2. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1965 and is located approximately 1.6 miles northwest of the BSA; this population is considered to be extirpated due to development (CDFW 2022a).
<i>Caulanthus californicus</i> California jewelflower	Endangered	Annual herb. Chenopod scrub, pinyon and juniper woodland, valley and foothill grassland. Sandy. Elevations: 200-3280 ft. (61-1000 m.) Blooms Feb-May.	<b>None.</b> No suitable habitat occurs within the BSA. The BSA is outside of the elevation range for this species. No CNDDDB occurrences are located within the surveyed quadrangles (CDFW 2022a). Therefore, this species does not have potential to occur.
<i>Cirsium fontinale</i> var. <i>obispoense</i> Chorro Creek bog thistle	Endangered	Perennial herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Drainages, seeps, serpentinite. Elevations: 115-1265 ft. (35-385 m.) Blooms Feb-Jul (Aug-Sep).	<b>None.</b> Elements of coastal scrub habitat are present in the BSA; however, this habitat is disturbed, limited in size, and isolated. There are no CNDDDB occurrences within a 5-mile radius of the BSA (CDFW 2022a). Therefore, this species does not have potential to occur.
<i>Cirsium scariosum</i> var. <i>loncholepis</i> La Graciosa thistle	Endangered	Perennial herb. Cismontane woodland, coastal dunes, coastal scrub, marshes and swamps, valley and foothill grassland. Mesic, sandy. Elevations: 15-720 ft. (4-220 m.) Blooms May-Aug.	<b>Low Potential.</b> Elements of coastal scrub habitat are present in the BSA; however, this habitat is disturbed, limited in size, and isolated. Federally-designated critical habitat for La Graciosa thistle is located approximately 0.1 mile south of the BSA. Multiple CNDDDB occurrences are within the surveyed quadrangles, the most recent of which is from 2019 and is located approximately 1.8 miles south of the BSA. An additional occurrence from 1969 is located within 100 feet of the BSA; however, this population was documented as extirpated in 2017 due to incursion of non-native invasive ice plant (CDFW 2022a). This species has a low potential to occur in coastal scrub habitats adjacent to Segments 1-5, 1-11, and 3-4.
<i>Clarkia speciosa</i> ssp. <i>immaculata</i> Pismo clarkia	Endangered	Annual herb. Chaparral, cismontane woodland, valley and foothill grassland. Sandy. Elevations: 80-605 ft. (25-185 m.) Blooms May-Jul.	<b>None.</b> No suitable habitat occurs within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1987 and is located approximately 1.5 miles north of the BSA (CDFW 2022a). Therefore, this species does not have potential to occur.

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Scientific Name Common Name	Federal Status	Habitat Requirements	Potential to Occur/ Basis for Determination
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> salt marsh bird's-beak	Endangered	Annual herb (hemiparasitic). Coastal dunes, marshes and swamps. Limited to the higher zones of salt marsh habitat. Elevations: 0-100 ft. (0-30 m.) Blooms May-Oct (Nov).	<b>None.</b> Elements of coastal dune/scrub habitat is present in the BSA; however, this habitat is disturbed, limited in size, and isolated. No CNDDDB occurrences are located within a 5-mile radius of the BSA (CDFW 2022a). Therefore, this species does not have potential to occur.
<i>Deinandra increscens</i> ssp. <i>villosa</i> Gaviota tarplant	Endangered	Annual herb. Coastal bluff scrub, coastal scrub, valley and foothill grassland. Known from coastal terrace near Gaviota; sandy blowouts amid sandy loam soil; grassland/coast scrub ecotone. Elevations: 65-1410 ft. (20-430 m.) Blooms May-Oct.	<b>None.</b> Elements of coastal scrub habitat are present in the BSA; however, this habitat is disturbed, limited in size, and isolated. The only CNDDDB occurrence located within the surveyed quadrangle is from 2011 and is located approximately 15 miles south of the BSA (CDFW 2022a). Therefore, this species does not have potential to occur.
<i>Eriodictyon altissimum</i> Indian Knob mountainbalm	Endangered	Perennial evergreen shrub. Chaparral, cismontane woodland, coastal scrub. Ridges in open, disturbed areas within chaparral on Pismo sandstone. Elevations: 260-885ft. (80-270m.) Blooms Mar-Jun.	<b>None.</b> Limited disturbed coastal scrub habitat is present within the BSA. The BSA is outside of the elevation range for this species. Therefore, this species does not have potential to occur.
<i>Lupinus nipomensis</i> Nipomo Mesa lupine	Endangered	Perennial deciduous shrub. Chaparral. Dry, rocky slopes. Elevations: 625-1885 ft. (190-575 m.) Blooms May-Oct.	<b>None.</b> No suitable chaparral habitat is present within the BSA. Several CNDDDB occurrences are located within the surveyed quadrangles, all of which are located approximately 2.8 miles south of the BSA (CDFW 2022a). Therefore, this species does not have potential to occur.
<i>Nasturtium gambelii</i> Gambel's water cress	Endangered	Perennial rhizomatous herb. Marshes and swamps. Freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. Elevations: 15-1085 ft. (5-330 m.) Blooms Apr-Oct.	<b>None.</b> No suitable marsh habitat is present within the BSA; therefore, the species is not expected to occur in the BSA. Potentially suitable marsh habitat for this species is located adjacent to Segments 2-1 and 2-2. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1949 and is located within 20 feet of the BSA; however, this population is considered to be extirpated due to heavy development within this portion of the BSA (CDFW 2022a).

Scientific Name Common Name	Federal Status	Habitat Requirements	Potential to Occur/ Basis for Determination
<i>Navarretia fossalis</i> spreading navarretia	Threatened	Annual herb. Chenopod scrub, marshes and swamps, playas, vernal pools. San Diego hardpan and San Diego claypan vernal pools; in swales and vernal pools, often surrounded by other habitat types. Elevations: 100-2150ft. (30-655m.) Blooms Apr-Jun.	<b>None.</b> No suitable chenopod scrub, marshes and swamps, playas, or vernal pools are present within the BSA. There are no CNDDDB occurrences within the surveyed quadrangles (CDFW 2022a). Therefore, this species does not have potential to occur.
<b>Animals</b>			
<b>Invertebrates</b>			
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	Threatened	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	<b>None.</b> No vernal pools are present within the BSA. There are no CNDDDB occurrences within a 5-mile radius of the BSA (CDFW 2022a). Therefore, this species does not have potential to occur.
<i>Danaus plexippus pop. 1</i> monarch - California overwintering population	Candidate	Roosts in eucalyptus, Monterey pine, and cypress groves along the coast from Mendocino to Baja California, Mexico. Must have water and nectar sources nearby.	<b>Low Potential (Overwintering).</b> Several known monarch overwintering sites are located adjacent to the BSA and multiple CNDDDB occurrences are located within one mile of the BSA. Xerces Site #3066 is located approximately 300 feet southwest of the BSA along Segment 2-10. Xerces Site #3063 is located approximately 700 feet east of the BSA along Segment 2-2. Other known overwintering sites located less than a mile from the BSA include Xerces Sites #2031, #3064, #3065, #3067, and #3082 (CDFW 2022a). This species has a low potential to occur within the BSA as transient individuals traveling between overwintering sites.

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Scientific Name Common Name	Federal Status	Habitat Requirements	Potential to Occur/ Basis for Determination
<b>Fish</b>			
<i>Eucyclogobius newberryi</i> tidewater goby	Endangered	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	<b>None.</b> No suitable brackish water habitat is present within the BSA. Several CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2008 and is located approximately 0.2 miles south of the BSA, within the Arroyo Grande Creek Lagoon; however, this population is presumed to be extirpated due to frequent groundwater dewatering to support nearby agriculture. An additional CNDDDB occurrence from 2008 is located approximately 2.2 miles northwest of the BSA, within Pismo Creek (CDFW 2022a). This species does not have potential to occur.
<i>Oncorhynchus mykiss irideus</i> pop. 9 steelhead - south-central California coast Distinct Population Segment (DPS)	Threatened	Federal listing refers to runs in coastal basins from the Pajaro River south to, but not including, the Santa Maria River.	<b>None.</b> No suitable habitat for steelhead is present within the BSA. Federally designated critical habitat for steelhead is present within Arroyo Grande Creek, approximately 0.1 mile south of the BSA. Several CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2002 and is located approximately 4.5 miles north of the BSA (CDFW 2022a). This species does not have potential to occur.
<b>Amphibians</b>			
<i>Ambystoma californiense</i> California tiger salamander	Threatened	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	<b>None.</b> No suitable grassland, savanna, or open woodland habitats are present within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, all of which are located over 12 miles southeast of the BSA (CDFW 2022a). This species does not have potential to occur.

Scientific Name Common Name	Federal Status	Habitat Requirements	Potential to Occur/ Basis for Determination
<i>Rana boylei</i> pop. 6 foothill yellow-legged frog - south coast DPS	Proposed Endangered	Southern Coast Ranges from Monterey Bay south through San Gabriel Mountains; west of the Salinas River in Monterey Co, south through Transverse Ranges, and east through San Gabriel Mountains. Historically may have ranged to Baja California. Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.	<b>None.</b> No suitable stream habitat is present within the BSA. Two CNDDB occurrences are located within the surveyed quadrangles, both of which are from over 50 years ago and are located over 5 miles northeast of the BSA. Both populations have been extirpated due to altered water regimes caused by dams (CDFW 2022a). This species does not have potential to occur.
<i>Rana draytonii</i> California red-legged frog	Threatened	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	<b>Low Potential.</b> Potentially suitable riparian habitat for this species is located within the BSA along Segment 2-1 and adjacent to the BSA along Segment 2-2. Many CNDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2017 and is located 0.1 mile from the BSA along Creek Road (CDFW 2022a). This species has a low potential to occur within the BSA adjacent to Segment 2-1 and 2-2 as transient individuals if they are migrating between suitable aquatic sites.
<b>Birds</b>			
<i>Brachyramphus marmoratus</i> marbled murrelet	Threatened	Marine subtidal and pelagic habitats from the Oregon border south to Point Sal. Prefers coastal coniferous forests for roosting and nesting.	<b>None.</b> No marine subtidal or pelagic habitats are present within the BSA. No CNDDB occurrences are located within the surveyed quadrangles (CDFW 2022a). This species does not have potential to occur.
<i>Charadrius nivosus nivosus</i> western snowy plover	Threatened	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	<b>None.</b> No suitable sandy beach habitat is located within the BSA. Federally designated critical habitat for western snowy plover is located approximately 80 feet southwest of the BSA. Multiple CNDDB occurrences are located within the surveyed quadrangles, the closest of which is located approximately 0.4 miles south of the BSA (CDFW 2022a). This species does not have potential to occur.

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Scientific Name Common Name	Federal Status	Habitat Requirements	Potential to Occur/ Basis for Determination
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	Threatened	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	<b>None.</b> Marginally suitable riparian habitat is located adjacent to the BSA. The only CNDDDB occurrence within the surveyed quadrangles is from 1932 and is located approximately 7 miles northwest of the BSA; this population is considered to be extirpated (CDFW 2022a). This species does not have potential to occur.
<i>Empidonax traillii extimus</i> southwestern willow flycatcher	Endangered	Riparian habitats, specifically wet meadows and montane riparian habitats in the Sierra Nevada and Cascade Range. Known breeding locations include the Santa Ynez and Santa Clara rivers.	<b>None.</b> Marginally suitable riparian habitat is located adjacent to the BSA; however, the BSA is located outside of the known breeding range of this species. No CNDDDB occurrences are located within the surveyed quadrangles (CDFW 2022a). This species does not have potential to occur.
<i>Gymnogyps californianus</i> California condor	Endangered	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	<b>None.</b> No suitable open savannah, grasslands, or foothill chaparral habitat are present within the BSA. The only CNDDDB occurrence within the surveyed quadrangles is from 1975 and is located approximately 13 miles northeast of the BSA (CDFW 2022a). This species does not have potential to occur.
<i>Rallus longirostris obsoletus</i> California clapper rail	Endangered	Tidal and brackish marshes from Marin to San Luis Obispo County. Only known breeding population occurs in San Francisco Bay Estuary.	<b>None.</b> No suitable marsh habitat is located within the BSA; therefore, this species is not expected to occur. No CNDDDB occurrences are located within the surveyed quadrangles (CDFW 2022a).
<i>Sternula antillarum browni</i> California least tern	Endangered	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	<b>None.</b> Potentially suitable foraging habitat for this species occurs in Oceano Lagoon; however, these areas are outside of the BSA. Several CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2016 and is located approximately 3.4 miles south of the BSA (CDFW 2022a). This species does not have potential to occur within the BSA.

Scientific Name Common Name	Federal Status	Habitat Requirements	Potential to Occur/ Basis for Determination
<i>Vireo bellii pusillus</i> least Bell's vireo	Endangered	Prefers dense valley foothill riparian habitat.	<b>None.</b> Potentially suitable arroyo willow scrub is present within the BSA; however, no CNDDDB occurrences are located within the surveyed quadrangles (CDFW 2022a) and no eBird observations have been documented in the vicinity of the BSA (eBird 2023). As such, this species does not have potential to occur in the BSA.
<b>Mammals</b>			
<i>Dipodomys ingens</i> giant kangaroo rat	Endangered	Found in annual grasslands on the western side of the San Joaquin Valley. Occasionally occurs in alkali scrub. Prefers areas with sparse cover, can be found in areas of cattle grazing. Requires level or slightly sloping terrain and friable soils for burrowing.	<b>None.</b> No suitable grassland or alkali scrub habitats are present within the BSA. No CNDDDB occurrences are located within the surveyed quadrangles (CDFW 2022a). This species does not have potential to occur in the BSA.

### 4.1.3 California Red-legged Frog

The California red-legged frog, a federally threatened species and CDFW SSC, occurs in aquatic habitats including streams, marshes, and ponds with dense, shrubby, or emergent riparian vegetation. This species is found along the Coast Ranges from Mendocino County south to Baja California, Mexico, as well as in some regions of the Sierra Nevada and Cascade Ranges (Zeiner 1988). No federally designated Critical Habitat for California red-legged frog occurs within the BSA; the nearest federally designated critical habitat for this species is located over 10 miles north of the BSA (USFWS 2022b).

Potentially suitable riparian habitat for California red-legged frog is present within the BSA, specifically near Oceano Lagoon and Segments 2-1 and 2-2. Many records of California red-legged frog are located within the surveyed quadrangles, the closest of which is from 2017 and is located approximately 0.1 mile from the BSA along Creek Road (CDFW 2022a). This species has a low potential to occur in the portions of the BSA located adjacent to Oceano Lagoon, including along Segment 2-1. Suitable habitat is not present within the project site, which is contained in developed roads.

## 4.2 State Listed and other Special Status Species

Based on the database searches, literature review, and results of the field reconnaissance survey of the BSA, Rincon evaluated an additional 64 special status species (not federally listed); of these, 11 special status plant species and 5 special status animal species were evaluated as being present or having some potential to occur within the BSA. Special status species with potential to occur within the BSA are provided in Table 5 and a complete list of special status species evaluated for the project is presented in Appendix B.



**Table 5 Special Status Species with Potential to Occur within the BSA**

Scientific Name	Common Name	Status <sup>1</sup>	Potential to Occur
<b>Plants</b>			
<i>Arctostaphylos rudis</i>	sand mesa manzanita	1B.2	Low Potential
<i>Erigeron blochmaniae</i>	Blochman's leafy daisy	1B.2	Low Potential
<i>Hesperocyparis macrocarpa</i>	Monterey cypress	1B.2	Present (Planted)
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	1B.1	Low Potential
<i>Horkelia cuneata</i> var. <i>sericea</i>	Kellogg's horkelia	1B.1	Low Potential
<i>Monardella sinuata</i> ssp. <i>sinuata</i>	southern curly-leaved monardella	1B.2	Low Potential
<i>Monardella undulata</i> ssp. <i>crispa</i>	crisp monardella	1B.2	Low Potential
<i>Monardella undulata</i> ssp. <i>undulata</i>	San Luis Obispo monardella	1B.2	Low Potential
<i>Scrophularia atrata</i>	black-flowered figwort	1B.2	Low Potential
<i>Senecio aphanactis</i>	chaparral ragwort	2B.2	Low Potential
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	1B.2	Low Potential
<b>Reptiles</b>			
<i>Anniella pulchra</i>	northern California legless lizard	SSC	Moderate Potential
<i>Emys marmorata</i>	western pond turtle	SSC	Low Potential
<i>Phrynosoma blainvillii</i>	coast horned lizard	SSC	Low Potential
<b>Mammals</b>			
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	SSC	Low Potential
<i>Taxidea taxus</i>	American badger	SSC	Low Potential

<sup>1</sup>: FC = Federal Candidate      FE = Federally Endangered      FT = Federally Threatened      FP = State Fully Protected  
SCT = State Candidate Threatened      SE = State Endangered      SSC = CDFW Species of Special Concern      ST = State Threatened

**CRPR**  
1B = Rare, Threatened, or Endangered in California and elsewhere  
2B = Rare, Threatened, or Endangered in California, but more common elsewhere

**CRPR Threat Code Extension**  
.1 = Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)  
.2 = Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)

## 4.2.1 Special Status Plant Species

Special status plant species typically have specialized habitat requirements, including plant community types, soils, and elevational ranges. The CNDDDB and CNPS queries identified 47 non-federally listed special status plant species that have been previously recorded within the eight USGS 7.5-minute topographic quadrangles surrounding the BSA and/or within five miles of the BSA.

The BSA contains potentially suitable riparian and coastal scrub habitats for several special status plant species. Of the 47 non-federally listed special status plant species identified in the database queries, 36 are not expected to occur because habitat within and adjacent to the BSA is unsuitable for the species (i.e., the area does not meet minimum habitat requirements). Ten special status plant species have a low potential to occur due to the presence of potentially suitable habitats within the BSA. Table 5 includes each special status plant species, its listing status, and its potential to occur. Appendix B contains additional justification on each species' potential to occur along with all other special status species identified during the literature and database review, their listing

statuses, their habitat requirements, their potential to occur designations, and their habitat suitability/observation notes.

One special status plant species, Monterey cypress (*Hesperocyparis macrocarpa*; CRPR 1B.2), was documented within the BSA. This species is native to the Monterey Peninsula but has been widely planted outside of its native range as a landscape tree. In the BSA, all occurrences of this species were located within private residences or along the public ROW as landscape trees. Monterey cypress is therefore omitted from further discussion because the species is not native to the region and all occurrences within the BSA are planted landscape trees.

## 4.2.2 Special Status Wildlife Species

Based on the database and literature review, 17 non-federally listed special status wildlife species have been recorded within the eight USGS 7.5-minute topographic quadrangles surrounding the BSA and/or within five miles of the BSA. Of the 17 species identified in the database queries, 12 are not expected to occur because habitat within and adjacent to the BSA is unsuitable for the species (i.e., the area does not meet minimum habitat requirements). Four species have low potential to occur and one species, northern California legless lizard (*Anniella pulchra*), has a moderate potential to occur within the BSA.

Table 5 includes each special status wildlife species, its listing status, and its potential to occur. The one special status wildlife species with a moderate potential to occur is discussed in more detail in the subsection below. Appendix B contains additional justification on each species' potential to occur along with all other special status species identified during the literature and database review, their listing statuses, their habitat requirements, their potential to occur designations, and their habitat suitability/observation notes.

### **Northern California Legless Lizard**

The northern California legless lizard, a CDFW SSC, is found in the Coast Ranges from Contra Costa County to the Mexican border. This species occurs in a variety of habitats including sparsely vegetated areas of coastal dunes, valley-foothill grasslands, chaparral, and coastal scrub that contain sandy or loose organic soils with leaf litter and moist soils for burrowing (Zeiner 1988).

Potentially suitable habitat in the form of sparsely vegetated areas with sandy or loose organic soils is present in the BSA. Multiple CNDDDB records are located within the surveyed quadrangles, including several located within one mile of the BSA. The closest CNDDDB record is from 1960 and is located approximately 0.1 mile from the BSA (CDFW 2022a). This species has a moderate potential to occur in the silver dune lupine – mock heather scrub with sandy soils within the BSA.

## 4.2.3 Other Protected Species

### **Bald and Golden Eagle Protection Act**

No records for bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*) occur within five miles of the BSA. Marginally suitable foraging habitat for bald eagle is present within the BSA in the form of Oceano Lagoon; potentially suitable habitat for golden eagle is absent from the BSA. No suitable nesting habitat for either species exists within the BSA, and neither species is expected to occur.

## Birds Protected by the Migratory Bird Treaty Act and California Fish and Game Code

The BSA contains suitable nesting habitat to support regulated nesting birds and raptors protected under CFGC Sections 3503, 3503.5, and 3513, and the MBTA (16 United States Code Sections 703 to 712). Potential nesting habitat for birds and raptors was observed throughout the BSA, with the most suitable locations being mature ornamental and landscape trees along roadways, the arroyo willow thickets along Segments 2-1 and 2-2, and the silver dune lupine – mock heather scrub habitats at the junction of Segments 1-5 and 1-11 and along Segment 3-4. No inactive or potentially active nests were observed within the BSA during the field reconnaissance survey.

### 4.3 Sensitive Natural Communities

The CDFW California Natural Community List identifies sensitive natural communities throughout California, based in part on global and state rarity ranks (CDFW 2022b). Natural communities having a rank of 1 to 3 are generally considered sensitive, though some communities with other ranks may also be considered sensitive.

One sensitive natural community, silver dune lupine – mock heather scrub (G3S2.2), is present within the BSA at the junction of Segments 1-5 and 1-11, and along Segment 3-4.

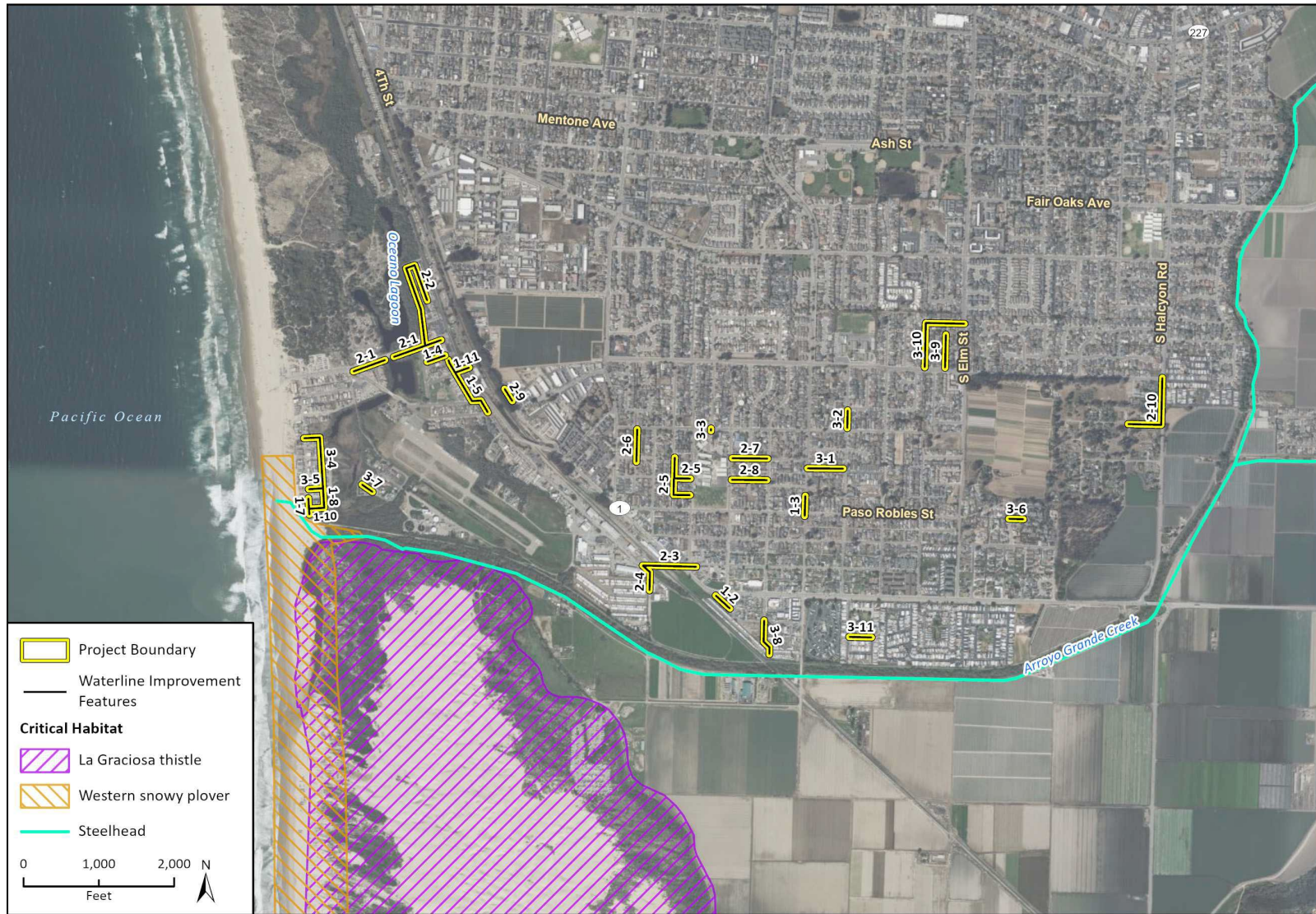
### 4.4 Federally- Designated or Proposed Critical Habitat and Essential Fish Habitat

No federally designated or proposed critical habitat is present within the BSA. Critical habitat for La Graciosa thistle is located approximately 0.1 mile south of the BSA, and south of Arroyo Grande Creek. Critical habitat for western snowy plover is located approximately 80 ft. southwest of the BSA, in the Oceano Dunes Natural Preserve. Critical habitat for steelhead – south-central California coast distinct population segment (DPS) occurs in Arroyo Grande Creek, approximately 0.1 mile south of the BSA. No federally designated Essential Fish Habitat occurs within the BSA. Figure 6 provides an overview of federally designated Critical Habitat and Essential Fish Habitat in relation to the BSA.

### 4.5 Jurisdictional Waters and Wetlands

Areas potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the CWA, the jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA and the California Water Code (Porter-Cologne Water Quality Control Act), and the jurisdiction of the CDFW pursuant to CFGC Section 1600, were assessed during the literature review and field reconnaissance survey. Results of the research and field surveys determined the presence of three potentially jurisdictional features within the BSA, all of which are unnamed and located directly adjacent to Oceano Lagoon. A formal jurisdictional delineation was not conducted for this analysis, and the results presented here are preliminary conclusions regarding areas likely to be considered jurisdictional by the various resource agencies.

**Figure 6 Critical Habitat**



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 Additional data provided by USFWS and NOAA, 2022.

22-13146 Waterline Improvement  
 Fig 6 Critical Habitat

The three unnamed potentially jurisdictional features within the BSA consist of forested/shrub wetland features located adjacent to Oceano Lagoon. One of these features is located along the northwestern portion of Segment 2-2 and the other two features are located on either side of the bridge along Section 2-1; all three of these wetlands are also mapped as Coastal Zone Wetlands (County 2022). Due to being located adjacent to Oceano Lagoon and within the larger Meadow Creek – Frontal Pacific Ocean Subwatershed, these features are likely subject to USACE, RWQCB, and CDFW jurisdiction. These features may also be considered one-parameter wetlands subject to County and California Coastal Commission (CCC) jurisdiction. Figure 4 provides an overview of potentially jurisdictional features in relation to the BSA.

## 4.6 Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats in the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically, habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (e.g., rock outcroppings, vernal pools, or oak trees) may need to be in the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

The BSA is not within any mapped Essential Connectivity Areas as designated by the California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California (CEHC; Spencer et al. 2010). Portions of the BSA along Segments 1-7, 1-8, 1-10, 3-4, and 3-5 are located within a Natural Landscape Block, as designated by the CEHC. While the project site is limited to the public ROW within a residential neighborhood, aquatic and riparian habitats associated with Meadow and Arroyo Grande Creeks occur east and south of the BSA, respectively, and coastal dune habitats associated with Pismo State Beach occur directly south of the BSA. These aquatic, riparian, and coastal dune habitats have potential to support local movement of a variety of aquatic and terrestrial wildlife species.

## 4.7 Resources Protected by Local Policies and Ordinances

### 4.7.1 San Luis Obispo County General Plan

#### **Conservation and Open Space Element**

The County's General Plan Conservation and Open Space Element outlines goals and policies that aim to preserve biodiversity, sustain healthy ecosystems, enhance degraded habitats, and protect the diverse landscapes throughout the County. Policies regarding resource protection include Policy Biological Resources (BR) 1.15 Restrict Disturbance in Sensitive Habitat during Nesting Season, BR 2.6 Development Impacts to Listed Species, BR 3.1 Native Tree Protection, BR 4.1 Protect Stream Resources, and BR 5.1 Protect Wetlands. A detailed summary of all policies included in the County's General Plan Conservation and Open Space Element is provided in Appendix A.

#### **Local Coastal Program and Land Use Element**

The County's General Plan Local Coastal Program Policy Document, which is a component of the Local Coastal Program (LCP) and Land Use Element, outlines policies and standards that aim to protect coastal resources and address the issues of the California Coastal Act within the scope of the General Plan. Policies regarding resource protection include Policy 26 Riparian Vegetation, Policy 29 Protection of Terrestrial Habitats, and Policy 30 Protection of Native Vegetation. A detailed summary of all policies included in the County's Local Coastal Program Policy Document is provided in Appendix A.

### 4.7.2 San Luis Obispo County Code

The San Luis Obispo County Oak Woodland Ordinance, included in San Luis Obispo County Title 22, Chapter 22.58 of the County Code, took effect on May 11, 2017. This Ordinance includes criteria to limit the clear-cutting of oak woodlands, which are defined as a group of trees occupying an acre of more with a reasonably uniform composition that is dominated by one or more oak (*Quercus* spp.) species and does not apply to individual oak trees, except for Heritage oaks (defined in Appendix A). The ordinance does not apply to woodland thinning, tree trimming, or oak trees that are diseased, dead, or creating a hazardous condition. Additionally, this Ordinance does not apply to projects within the Coastal Zone. This Ordinance would not apply to individual tree impacts associated with the project.

San Luis Obispo County Title 22, Chapter 22.56 of the County Code prohibits the removal of trees without first obtaining a tree removal permit. A detailed summary of the permit process, including exceptions, is presented in Appendix A.

Last, Title 23 of the San Luis Obispo County Code (i.e., Coastal Zone Land Use) proclaims that there shall be no significant negative impact within an Environmentally Sensitive Habitat Area (ESHA) and that the proposed use of the ESHA will be consistent with the biological continuance of the habitat. ESHA is defined as a type of sensitive resource area where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily be disturbed or degraded by human activities and development. They include wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats and are mapped as Land Use Element combining designations. Within the BSA, Oceano Lagoon and its associated arroyo

willow riparian habitat are considered ESHA; however, these habitats are located outside of the project site and are not expected to be impacted during construction.

### 4.7.3 Oceano Specific Plan

Per the Oceano Specific Plan, Oceano Lagoon and its surrounding riparian habitat, as well as coastal dune habitats throughout Oceano, are considered as ESHA. New development within or adjacent to ESHA must comply with the ESHA resource protection policies included in the LCP.

### 4.7.4 Protected Trees

Any non-hazardous tree with a diameter at breast height (DBH) of 8 in. or greater proposed for removal would require mitigation consistent with current County ordinances and policies. For a complete list of San Luis Obispo ordinances and policies relating to the removal of native trees see Appendix A.

Multiple non-hazardous coast live oak trees with a DBH of 8 in. or greater are located within the BSA. Most of these trees are located in riparian scrub habitats and in yards of private residences within the BSA and primarily outside of the project site.

## 4.8 Habitat Conservation Plans

The BSA does not occur within any HCP, NCCP, or other approved local, regional, or state habitat conservation plan area.

## 5 Effects of the Proposed Action for NEPA

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The following analysis focuses on effects of the Proposed Action on federally threatened and endangered species, species proposed or candidates for federal listing, and birds protected by the MBTA. No effects to species protected under the Bald and Golden Eagle Protection Act are anticipated, considering they are not expected to occur within the BSA. As discussed in Section 3, three unnamed freshwater forested/shrub wetland features subject to regulation under the CWA occur within the BSA; potential effects of the Proposed Action on these resources are discussed below.

This analysis of the project effects on special status plant and animal species takes into consideration both direct and indirect effects resulting from implementation of the Proposed Action. The analysis of direct effects is focused over the entire BSA and addresses loss of habitat for special status species, and project activities occurring at the time of construction that may influence special status species, such as increased noise during construction. The analysis of indirect effects considered the long-term, site-specific impacts to special status species that may result from implementation of the Proposed Action. Overall impacts to populations of special status species are addressed in a cumulative impact analysis.

A total of 23 federally listed species were determined to have no potential to occur within the BSA because suitable habitat for the species is not present and/or the species range is well outside of the BSA. As such, the Proposed Action would have no effect on these species. One federally listed plant species, La Graciosa thistle, and two federally listed/candidate animal species, including monarch – California overwintering population and California red-legged frog have the potential to occur within the BSA. Additionally, birds protected by the MBTA have the potential to occur within the BSA. As stated previously, the BSA is mostly located within the public ROW within paved roads and dirt shoulders, and the Proposed Action will take place within these previously developed or disturbed areas. The BSA is highly developed but is adjacent to intact habitat that has the potential to support special status species.

### 5.1 Direct Effects

#### 5.1.1 La Graciosa Thistle

Although potentially suitable habitat for La Graciosa thistle in the form of silver dune lupine – mock heather scrub occurs within the BSA, these habitats are located outside of the project site and no disturbance to these habitats is expected to occur during implementation of the Proposed Action. Potential direct effects to La Graciosa thistle could occur via trampling if they are present within the BSA during implementation. Due to the limited amount of suitable habitat for this species, as well as the location of these habitats outside of the project site, no direct effects to La Graciosa thistle are expected to occur as a result of the Proposed Action. Implementation of the Best Management Practices (BMPs) outlined in AMM BIO-1, including installation of construction fencing, as well as implementation of the Worker Environmental Awareness Program (WEAP) described in AMM-2 and biological monitoring described in AMM-3, would help assure avoidance of potential effects to La Graciosa thistle individuals, if present.



### 5.1.2 Monarch – California Overwintering Population

The Proposed Action is expected to occur at least partially during the California monarch overwintering period, which occurs from September through March. While no suitable monarch overwintering habitat in the form of eucalyptus groves occur within the BSA, several known monarch overwintering sites occur near the BSA. As stated previously, the BSA is mostly located within the public ROW within paved roads and dirt shoulders, which feature minimal vegetation and are subject to frequent disturbance in the form of vehicular and foot traffic. Additionally, potential nectar sources for overwintering monarchs are absent from most of the BSA. Based on these considerations, overwintering monarchs have a low potential to occur as transient individuals within the BSA and no direct effects to overwintering monarchs are expected to occur as a result of the Proposed Action. Implementation of BMPs outlined in AMM BIO-1, including adherence to a speed limit of 15 miles per hour, as well as WEAP training, biological monitoring, and pre-construction wildlife surveys as described in AMMs BIO-2, BIO-3, and BIO-4, would minimize the potential for direct effects to dispersing overwintering monarchs, if present.

### 5.1.3 California Red-legged Frog

While no suitable aquatic habitat for California red-legged frog occurs within the BSA, potentially suitable habitat elements occur within Oceano Lagoon and the surrounding arroyo willow thickets located adjacent to the BSA along Segments 2-1 and 2-2. As stated previously, the BSA is mostly located within the public ROW in paved roads and dirt shoulders, which are subject to frequent disturbance in the form of vehicular and foot traffic. The project site does not contain suitable habitat for California red-legged frog. Additionally, the closest CNDDDB occurrence of California red-legged frog is associated with Arroyo Grande Creek, which is separated from the BSA by surrounding development. Based on these considerations, California red-legged frog has a low potential to occur in the BSA near Segments 2-1 and 2-2. Given the lack of suitable habitat within the project site, no direct effects to California red-legged frog are expected to occur as a result of the Proposed Action. Implementation of BMPs outlined in AMM BIO-1, including installation of silt fencing or similar exclusion fencing adjacent to these portions of the BSA, as well as WEAP training, biological monitoring, and pre-construction wildlife surveys as described in AMMs BIO-2, BIO-3, and BIO-4, would minimize potential effects to dispersing California red-legged frogs, if present.

### 5.1.4 Nesting Birds

The planted landscaping trees, arroyo willow thickets, and silver dune lupine – mock heather scrub habitats within the BSA could be used by numerous species of migratory birds protected under the MBTA. However, the project site is limited to the public ROW within paved roads and dirt shoulders, which feature minimal vegetation and are subject to frequent disturbance in the form of vehicular and foot traffic. As such, no direct effects to nesting birds or potentially suitable habitat would occur as a result of the Proposed Action. Implementation of AMM BIO-5, which includes pre-construction nesting bird surveys, would minimize potential effects to nesting birds if present in the BSA.

### 5.1.5 Critical Habitat and Essential Fish Habitat

No federally designated critical habitat or essential fish habitat occurs within the BSA; therefore, no direct effects to critical habitat or essential fish habitat would occur.

### 5.1.6 Jurisdictional Waters and Wetlands

While three unnamed freshwater forested/shrub wetland features associated with Oceano Lagoon occur along Segments 2-1 and 2-2, these features are located completely outside of the public ROW that comprises the project site. Therefore, no direct effects to jurisdictional waters or wetlands would occur.

## 5.2 Indirect Effects

### 5.2.1 La Graciosa Thistle

Implementation of the Proposed Action is not anticipated to result in effects to potential La Graciosa thistle habitat, as these habitats are located entirely outside of the project site. During implementation of the Proposed Action, temporary indirect effects to La Graciosa thistle could result from general construction-related dust and debris if individuals are present within silver dune lupine – mock heather scrub habitats in the BSA, and/or through habitat modification resulting from the introduction of invasive plants during implementation of the Proposed Action. Implementation of AMMs BIO-1, which includes BMPs to minimize potential effects to special status plants due to construction-related dust and debris, as well as BIO-6, which outlines measures to prevent spread of invasive species within potentially suitable habitat for special status plant species, would avoid and/or minimize potential indirect effects to La Graciosa thistle. With implementation of these measures, potential indirect effects to La Graciosa thistle would be negligible.

### 5.2.2 Monarch – California Overwintering Population

Implementation of the Proposed Action is not anticipated to result in effects to potential monarch overwintering habitat or known overwintering sites. During implementation of the Proposed Action, temporary indirect effects to overwintering monarchs could result from general construction-related disturbance and noise if transient individuals are visiting nectar sources and/or flying near the BSA at the time of construction. However, overwintering monarchs in the immediate vicinity of the BSA are likely highly tolerant of existing noise and disturbance associated with the public ROW and surrounding residential, commercial, and industrial development. The additional noise and construction disturbance associated with the Proposed Action would not represent a significant new noise and disturbance effect and this increased activity would be temporary in nature. Therefore, no significant indirect effects to overwintering monarchs are expected to occur. Implementation of AMM BIO-1, which includes BMPs to minimize construction-related disturbance, would avoid and/or minimize potential indirect effects to overwintering monarchs, if present. With implementation of this measure, potential indirect effects to monarch butterfly would be negligible.

### 5.2.3 California Red-legged Frog

Implementation of the Proposed Action is not anticipated to result in long-term loss or modification of California red-legged frog upland or aquatic habitat within the BSA. Temporary indirect effects to California red-legged frog upland habitat may occur as a result of the Proposed Action. However, effects to California red-legged frog upland habitat are unlikely to be adverse with implementation of AMMs BIO-1, BIO-2, BIO-3, and BIO-6, and considering the BSA covers a relatively small area compared to the total amount of upland habitat available adjacent to Oceano Lagoon, Meadow Creek, and Arroyo Grande Creek and in the surrounding residential areas. In addition, adults and juvenile frogs would still be able to utilize suitable habitat within the BSA for shelter, foraging,

predator avoidance, and dispersal upon completion of the Proposed Action, similar to how they may currently use the BSA during dispersal events.

Ground-disturbing activities during active construction could temporarily affect California red-legged frog upland dispersal. However, adverse effects to California red-legged frog dispersal are unlikely due to the lack of suitable habitat within the project site, the relatively short duration of activities, and the fact that the BSA covers a relatively small area compared to the total amount of upland habitat in the surrounding areas that is available to California red-legged frog. In addition, implementation of the BMPs included in AMMs BIO-1, BIO-3, and BIO-4 would avoid and/or minimize indirect effects to dispersing California red-legged frogs. With implementation of this measure, potential indirect effects to California red-legged frog would be negligible.

#### 5.2.4 Nesting Birds

Indirect effects to nesting birds could include temporary loss of nesting areas within the BSA and immediate surroundings, as well as potential nest abandonment, due to an increase in construction activity and noise. However, any birds that are nesting in the immediate vicinity of the BSA are likely highly tolerant of the existing noise and human activity associated with the public ROW and surrounding residential, commercial, and industrial development. The additional noise and construction activity associated with the Proposed Action would not represent a significant new noise and activity impact and this increased activity would be temporary in nature and nesting birds could return to the BSA after the Proposed Action is completed. Therefore, no significant indirect effects to nesting birds are expected to occur. Any potential indirect effects to nesting birds would be avoided and/or minimized through implementation of the BMPs included in AMMs BIO-1 and BIO-5.

#### 5.2.5 Critical Habitat and Essential Fish Habitat

Critical habitat for La Graciosa thistle is located approximately 0.1 mile south of the BSA, and south of Arroyo Grande Creek. Critical habitat for western snowy plover is located approximately 80 ft. southwest of the BSA, in the Oceano Dunes Natural Preserve. Critical habitat for steelhead -- south-central California coast DPS occurs in Arroyo Grande Creek, approximately 0.1 mile south of the BSA. Implementation of the BMPs in AMMs BIO-1, BIO-2, BIO-3, and BIO-6, would avoid or minimize temporary indirect effects to critical habitat. Given that these critical habitat areas are completely outside of the BSA, and with implementation of the proposed AMMs, no effects to critical habitat are expected. In addition, no federally designated Essential Fish Habitat occurs within the BSA and thus no effects to Essential Fish Habitat would occur.

#### 5.2.6 Jurisdictional Waters and Wetlands

Indirect effects from implementation of the Proposed Action, including staged equipment and materials (e.g., stockpiled materials, construction equipment, and trash) which may be stored within the BSA could adversely affect water quality (e.g., increased turbidity, altered pH, decreased dissolved oxygen levels, etc.) within the jurisdictional features if runoff were to occur during storm events. Potential indirect effects to jurisdictional features will be minimized through implementation of BMPs provided in AMMs BIO-1, BIO-2, BIO-3, and BIO-6.

## 6 Impact Analysis for CEQA

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The following analysis focuses on potential impacts of the project on special status plant and animal species, sensitive natural communities, wildlife movement, and resources protected by local policies and ordinances, for the purpose of evaluating the significance of impacts under CEQA.

### 6.1 Special Status Species

The project would have a significant effect on biological resources if it would:

- 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 Wildlife or U.S. Fish and Wildlife Service.*

#### 6.1.1 Special Status Plant Species

The IPaC, CNDDDB, and CNPS queries identified 58 special status plant species that have been previously recorded in either the eight USGS 7.5-minute topographic quadrangles surrounding the BSA and/or within five miles of the BSA. Of these, 11 species have a low potential to occur within the BSA, including federally endangered and state threatened La Graciosa thistle (discussed further in Section 5). Table 5 lists these species, their status, and their potential to occur within the BSA. Project-related impacts could occur to these species if they are present along the existing pipeline alignment. Additionally, indirect impacts could occur if they are present along the existing pipeline alignment and/or within the BSA through habitat modification resulting from the introduction of invasive plants during project-related activities. Potential impacts to these species would be reduced to less than significant with implementation of AMMs BIO-1, BIO-2, BIO-3, and BIO-6. These measures include but are not limited to implementation of BMPs to clearly delineate limits of construction work adjacent to potentially suitable habitats for these species, implementation of the WEAP, biological monitoring during all project-related activities occurring adjacent to habitats suitable for these species, and invasive species control measures.

#### 6.1.2 Special Status Wildlife Species

The IPaC, CNDDDB, and CNPS queries identified 33 special status wildlife species that have been previously recorded in the eight USGS 7.5-minute topographic quadrangles surrounding the BSA and/or within five miles of the BSA. Of these, six species have a low potential to occur, including federal candidate monarch and federally threatened California red-legged frog (discussed further in Section 5), and one species, northern California legless lizard, has a moderate potential to occur. Table 4 and Table 5 include these species, their listing status, and their potential to occur within the BSA. Regulated nesting birds and raptors protected under the MBTA and CFGC also have potential to occur throughout the BSA. Direct impacts to special status species are not expected given the lack of suitable habitat within the project site. However, based on the presence of adjacent habitat, the occurrence of unexpected transient individuals cannot be ruled out. Indirect impacts could occur due to noise and dust generation during heavy equipment operation and through habitat loss due to the introduction of invasive plants. In addition, indirect impacts to regulated birds could also occur if active nests near the BSA are abandoned due to project-related disturbances. Potential

impacts to special status wildlife species would be less than significant through the implementation of AMMs BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, and BIO-6. These measures include implementation of BMPs to clearly delineate limits of construction work adjacent to potentially suitable habitat for these species, WEAP training, pre-construction wildlife/nesting bird surveys and biological monitoring to identify and potentially relocate non-listed special status wildlife species out of harm's way prior to and during project activities, and invasive species control.

## 6.2 Sensitive Natural Communities

The project would have a significant effect on biological resources if it would:

- b) Have a substantial adverse impact 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 US Fish and Wildlife Service.*

No direct impacts to silver dune lupine – mock heather scrub, a CDFW sensitive natural community, or Oceano Lagoon and its associated riparian habitat, which is considered ESHA under the adopted LCP for the County, are expected to occur during construction, as these habitats are located outside of the project site. Indirect impacts could result during and following completion of the project through the introduction of invasive plant species. Potential impacts would be mitigated through the implementation of AMMs BIO-1, BIO-3, and BIO-6. These measures include but are not limited to implementation of BMPs and biological monitoring to ensure avoidance of sensitive natural communities during project activities and invasive plant species control to prevent spread of invasive plant species within these communities.

## 6.3 Wildlife Movement

The project would have a significant effect on biological resources if it would:

- d) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites.*

The BSA is not located within any mapped Essential Connectivity Areas; however, portions of the BSA along Segments 1-7, 1-8, 1-10, 3-4, and 3-5 are located within a Natural Landscape Area, as designated by the CEHC. The portions of the BSA located within the Natural Landscape Area are characterized by paved roads and/or gravel alleys, with aquatic and riparian habitats associated with Meadow and Arroyo Grande Creeks to the east and south, respectively, and coastal dune habitat associated with Pismo State Beach to the south. Because project construction will be limited to the public ROW within these areas and not result in new structures that could impede wildlife movement, no impacts to wildlife movement are expected to occur.

## 6.4 Resources Protected by Local Policies and Ordinances

The project would have a significant effect on biological resources if it would:

- e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance*

As discussed in Section 4.7, Oceano Lagoon and its associated arroyo willow riparian habitat are considered ESHA under the adopted LCP for the County of San Luis Obispo. No direct impacts to ESHA are expected to occur during construction, as these habitats are located outside of the project site. Indirect impacts could result during and following completion of the project through the introduction of invasive plant species. Potential impacts would be mitigated through the implementation of AMMs BIO-1, BIO-2, BIO-3, and BIO-6. These measures include but are not limited to implementation of BMPs to clearly delineate limits of construction work adjacent to Oceano Lagoon and its associated arroyo willow riparian habitat, implementation of the WEAP, biological monitoring during all project-related activities occurring adjacent to these habitats, and invasive species control measures.

Trees meeting the County protection standards were observed throughout the BSA. A large portion of the project site is located within developed public rights-of-way which are lined with protected trees, including coast live oaks and other tree species with a DBH of eight inches or greater. Potential impacts to protected trees may include, but are not limited to, construction equipment compacting soil around the trees, disturbance of the canopy and root zone, and trenching in the root zone. No protected trees are proposed for removal. Potential impacts to protected trees would be avoided and/or mitigated through the implementation of AMM BIO-7, which includes a Protected Tree Survey and associated fencing. With coordination with the County regarding the need for appropriate tree permits and implementation of this measure, the project would not conflict with the San Luis Obispo General Plan – Conservation and Open Space Element Policies *BR-3.1 Native Tree Protection* and *BR-3.5 Non-native Trees*, San Luis Obispo County General Plan – Local Coastal Program and Land Use Element *Policy 26 Riparian Vegetation* and *Policy 30 Protection of Native Vegetation*, San Luis Obispo County Oak Woodland Ordinance and San Luis Obispo County Code Title 22, Chapter 22.56.

## 6.5 Jurisdictional Waters and Wetlands

No direct impacts to the three unnamed freshwater forested shrub/wetland features associated with Oceano Lagoon are expected to occur during construction, as these features are located outside of the project site. Indirect impacts could result during the project through staged equipment and materials (e.g., stockpiled materials, construction equipment, and trash), which may be stored within the BSA, if runoff were to occur during storm events and adversely impact water quality (e.g., increased turbidity, altered pH, decreased dissolved oxygen levels, etc.). Potential indirect impacts to jurisdictional features will be minimized through implementation of BMPs provided in AMMs BIO-1, BIO-2, BIO-3, and BIO-6.

As discussed in Section 1.2, groundwater dewatering may be required during construction based on site conditions. Groundwater in the BSA is presumed to be in direct connection with surrounding water bodies, including Oceano Lagoon, which occurs adjacent to the BSA along Segments 2-1 and 2-2, as well as Meadow Creek Lagoon, Arroyo Grande Creek Lagoon, and the Pacific Ocean. If

groundwater dewatering is required, the project would adhere to applicable rules and regulations related to discharge, including the NPDES Permit and discharge requirements established by the South San Luis Obispo County Sanitation District, and would not discharge dewatered groundwater into storm drains leading to surrounding water bodies to avoid impacts to these resources if practicable. If groundwater must be dewatered into storm drains discharging to local surface water bodies, dewatered groundwater would be temporarily stored in baker tanks and water quality would be tested prior to discharge, consistent with permit requirements. In complying with applicable rules and regulations related to discharge and the requirements of the project's NPDES permit and local regulations, impacts to surrounding water bodies as a result of groundwater dewatering would be avoided or minimized.

## 7 Avoidance and Minimization Measures

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The AMMs listed below are recommended to avoid and/or minimize impacts to special status species, sensitive natural communities, and locally regulated resources. With implementation of these measures, the project impacts to special-status species under NEPA would be negligible and impacts to special status species would be less than significant under CEQA.

### *BIO-1 General Best Management Practices*

General requirements that should be followed by construction personnel are listed below.

- Prior to project mobilization, limits of construction work adjacent to silver dune lupine – mock heather scrub habitats, including along Segments 1-5, 1-11, and 3-4, should be clearly delineated with orange construction fencing or similar highly visible material and maintained throughout the duration of construction. Silt fencing or similar exclusion fencing should be installed along the limits of construction work adjacent to Oceano Lagoon and its associated riparian habitat, including along Segments 2-1 and 2-2.
- No native vegetation with a diameter at breast height (DBH) of more than 4 in. should be removed or damaged without approval by an approved biologist. Vegetation trimming should be minimized to the extent feasible.
- Staging and parking areas should be limited to previously disturbed areas comprising ruderal vegetation, ornamental landscaping, and paved/graded areas, to the extent practicable.
- Materials and equipment (when not in use) should be stored on impervious surfaces or plastic ground covers to prevent spills or leakage and should be stored at least 50 feet from streams and wetland features, as feasible.
- Adequate spill prevention and response equipment should be maintained on site and readily available to implement to minimize impacts to the aquatic environment.
- Construction materials and spoils should be protected from stormwater runoff using temporary perimeter sediment barriers such as berms, silt fences, fiber rolls, covers, sand/gravel bags, and straw bale barriers, as appropriate.
- Off-site tracking of loose construction materials and soil should be implemented using street sweeping, vacuuming, and rumble plates, as appropriate.
- All vehicles and equipment should be in good working condition and free of leaks. When vehicles or equipment are stationary, mats or drip pans should be placed below vehicles to contain fluid leaks. The contractor should prevent oil, petroleum products, or any other pollutants from contaminating the soil or entering a watercourse (dry or otherwise).
- Project-related vehicles should adhere to a speed limit of 15 miles per hour.
- If vehicle or equipment maintenance is necessary, it should be performed in the designated staging areas.
- Fugitive dust from ground disturbance activities should be minimized using water trucks and covering of soil stockpiles.
- Construction personnel should adhere to all posted speed limits.



- All food related trash should be disposed of in closed containers and removed from the project site each day during the construction period. Construction personnel should not feed or otherwise attract wildlife to the construction area. At project completion, all project-generated debris, vehicles, building materials, and rubbish should be removed from the project site.
- Excavated material from trenching along any potentially jurisdictional feature should be side cast away to prevent sediment deposition within the feature.
- All open trenches should be fenced and sloped to prevent entrapment of wildlife species.
- All hollow posts and pipes should be capped, and metal fence stakes should be plugged with bolts or other plugging materials to prevent wildlife entrapment and mortality.
- No pets should be allowed on the project site.
- No firearms should be allowed on the project site.
- Herbicides should not be used on-site during construction.
- Work should be restricted to daylight hours.
- While encounters with special status species are not likely or anticipated, any worker who inadvertently injures or kills a special status species or finds one dead, injured, or entrapped should immediately report the incident to the construction foreman or biological monitor. The construction foreman or biological monitor should immediately notify OCSD.
- Before starting or moving construction vehicles, especially after a few days of non-operation, operators should inspect under all vehicles to avoid impacts to any wildlife that may have sought refuge under equipment. All large building materials and pieces with crevices where wildlife can potentially hide should be inspected before moving. If wildlife is detected, a qualified biologist should move wildlife out of harm's way or temporarily stop activities until the animal leaves the area. Threatened or endangered species can only be moved with authorization of the United States Fish and Wildlife Service (USFWS) and/or California Department of Fish and Wildlife (CDFW), as applicable.

#### *BIO-2 Worker Environmental Awareness Training*

Prior to the initiation of the project, approved biologist should present a pre-project environmental education program for all personnel working at the site, which should be focused on conditions and protocols necessary to avoid and minimize potential impacts to biological resources. Prior to initiation of all construction activities (including staging and mobilization), all personnel associated with project construction should attend a Worker Environmental Awareness Program (WEAP) training, conducted by a qualified biologist, to aid workers in recognizing special status biological resources potentially occurring in the project site. This training will include information about the special status species with potential to occur in the project area. The specifics of this program should include identification of special status species and habitats, a description of the regulatory status and general ecological characteristics of special status resources, and review of the limits of construction and measures required to avoid and minimize impacts to biological resources within the project site. A fact sheet conveying this information should also be prepared for distribution to all contractors, their employees, and other personnel involved with construction of the project. All employees should sign a form provided by the trainer documenting they have attended the WEAP and understand the information presented to them. The crew foreman should be responsible for ensuring crew members adhere to the guidelines and restrictions designed to avoid impacts to special status species.

*BIO-3 Biological Monitoring*

An approved biologist should be on-site during all project-related activities occurring adjacent to sensitive habitat and/or habitat suitable for special status species, specifically Segments 1-5, 1-11, 2-1, 2-2, and 3-4. The approved biologist should ensure that all Avoidance and Minimization Measures (AMMs) are adhered to and should provide recommendations to avoid impacts to biological resources. If non-listed special-status wildlife species are observed within the project site during project activities, the approved biologist should relocate the species out of harm's way. State and/or federally listed species, including candidate species, may not be handled unless authorized by the CDFW and/or USFWS, as applicable. The biologist should have the authority to temporarily halt or redirect work to avoid impacts to special status plant and wildlife species or other protected biological resources.

*BIO-4 Pre-construction Special Status Wildlife Surveys*

Within seven days of any planned ground disturbance, a qualified biologist should conduct pre-construction surveys of the project site prior to the initiation of project activities occurring within or adjacent to habitat suitable for special status wildlife species, specifically Segments 1-5, 1-11, 2-1, 2-2, and 3-4. If non-listed special-status species are detected within the project site, the approved biologist should relocate the species out of harm's way; state and/or federally listed species may not be handled unless authorized by the CDFW and/or USFWS, as applicable.

*BIO-5 Pre-construction Nesting Bird Surveys*

To avoid disturbance of nesting birds, including special status species and birds protected by the MBTA and CFGC Section 3503, project activities should occur outside of the breeding season for migratory birds (generally February 1 through August 31), if feasible. If construction must occur during the breeding season, then a pre-construction nesting bird survey should be conducted no more than seven days prior to the initiation of project activities. The nesting bird pre-construction survey should be conducted on foot inside the project site and include a 300-foot buffer for raptors and a 100-foot buffer for all other species. The survey should be conducted by a biologist familiar with the identification of avian species known to occur along the central coast of California. If nests are found, an avoidance buffer of up to 300 feet for raptors and up to 100 feet for non-raptors (dependent upon the species, the proposed work activity, and existing disturbances associated with land use outside of the workspace) should be determined and demarcated by the biologist with construction fencing, flagging, or other means to mark the boundary. Intrusion into the buffer may be conducted at the discretion of the biologist.

*BIO-6 Invasive Plant Species Control*

Invasive plant species, for the purpose of this document, should include all species with a California Invasive Plant Council (Cal-IPC) rating of moderate or high. Construction personnel and equipment should be free of invasive plant seeds, propagules, and any material which may contain them (e.g., soil) prior to entering the project site. All potentially contaminated equipment will be carefully cleaned prior to the initiation of project activities. Staging areas and access routes within the project site should be kept clear of sprouting weeds to the maximum extent feasible. Only certified weed-free materials (e.g., gravel, straw, and fill) will be used for the project.

*BIO-7 Protected Tree Measures*

A Protected Tree Survey of all protected trees under the County definition that occur within 20 feet of proposed ground disturbance be conducted prior to project initiation. The Protected Tree Survey will determine the number, location, and protection class of each tree in the project site and will assess any potential project-related impacts. If protected trees are to be impacted and/or removed, a Tree Protection Plan and a Tree Replacement Plan (as applicable) should be developed prior to the implementation of the project.

Fencing (at least 3 feet high, highly visible, staked to prevent collapse, and includes signage placed in 15-foot intervals identifying the protection area) should be installed along the dripline of all protected trees that have a dripline that overlaps with the project site. No work should be permitted within the fencing unless overseen by an approved arborist and approved by OCSD. All protective fencing should be maintained throughout the duration of the project.

## 8 Limitations, Assumptions, and Use Reliance

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This BRA/BE has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Reconnaissance biological surveys for certain taxa may have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis, or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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# Appendix A

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Regulatory Setting

# Regulatory Setting

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The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the project site include the following:

- U.S. Army Corps of Engineers (wetlands and other waters of the United States)
- U.S. Fish and Wildlife Service (federally listed species and migratory birds)
- National Marine Fisheries Service (marine wildlife and anadromous fishes)
- Central Coast Regional Water Quality Control Board (waters of the State)
- California Department Fish and Wildlife (riparian areas, streambeds, and lakes; state-listed species; nesting birds, marine resources)
- California Coastal Commission
- San Luis Obispo County

## United States Army Corps of Engineers

The United States Army Corps of Engineers (USACE) is responsible for administering several federal programs related to ensuring the quality and navigability of the nation's waters.

### Clean Water Act Section 404

Congress enacted the Clean Water Act (CWA) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites."

Section 502 of the CWA further defines "navigable waters" as "waters of the United States, including the territorial seas." "Waters of the United States" are broadly defined at 33 CFR Part 328.3 to include navigable waters, perennial and intermittent streams, lakes, rivers, ponds, as well as wetlands, marshes, and wet meadows. In recent years, the USACE and US Environmental Protection Agency (USEPA) have undertaken several efforts to modernize their regulations defining "waters of the United States" (e.g., the 2015 Clean Water Rule and 2020 Navigable Waters Protection Rule), but these efforts have been frustrated by legal challenges which have invalidated the updated regulations. Thus, the agencies' longstanding definition of "waters of the United States," which dates from 1986, remains in effect albeit with supplemental guidance interpreting applicable court decisions as described below.

### Waters of the U.S.

In summary, USACE and USEPA regulations define "waters of the United States" as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;

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3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:
  - i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
  - ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - iii. Which are used or could be used for industrial purpose by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States;
5. Tributaries of waters identified in paragraphs (a)(1)-(4) of this section;
6. The territorial sea; and
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in items 1-6 above.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the USEPA.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA are not waters of the United States.

The lateral limits of USACE jurisdiction in non-tidal waters is defined by the "ordinary high-water mark" (OHWM) unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or the presence of debris (33 CFR 328.3(e)). As such, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within, or adjacent to, waters of the United States, the lateral limits of USACE jurisdiction extend beyond the OHWM to the outer edge of the wetlands (33 CFR 328.4 (c)). The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible (33 CFR 328.4; see also 51 FR 41217).

## **Wetlands**

The USACE defines wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3). The USACE's delineation procedures identify wetlands in the field based on indicators of three wetland parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. The following is a discussion of each of these parameters.

### *Hydrophytic Vegetation*

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than fifty

percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USACE published the National Wetland Plant List (USACE 2018), which separates vascular plants into the following four basic categories based on plant species frequency of occurrence in wetlands:

- **Obligate Wetland (OBL).** Almost always occur in wetlands
- **Facultative Wetland (FACW).** Usually occur in wetlands, but occasionally found in non-wetlands
- **Facultative (FAC).** Occur in wetlands or non-wetlands
- **Facultative Upland (FACU).** Usually occur in non-wetlands, but may occur in wetlands
- **Obligate Upland (UPL).** Almost never occur in wetlands

The USACE considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) fall within these categories. Any species not appearing on the United States Fish and Wildlife Service's list is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least 5% vegetative cover to be considered as a vegetated wetland.

#### *Hydric Soils*

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), gleying (indicates reducing conditions by a blue-grey color), or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

#### *Wetland Hydrology*

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

### **Applicable Case Law and Agency Guidance**

The USACE's regulations defining "waters of the United States" have been subject to legal interpretation, and two influential Supreme Court decisions have narrowed the definition to exclude certain classes of waters that bear an insufficient connection to navigable waters. In *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers* (2001), the United States Supreme Court stated that the USACE's CWA jurisdiction does not extend to ponds that "are not adjacent to open water." In reaching its decision, the Court concluded that the "Migratory Bird Rule," which served as the basis for the USACE's asserted jurisdiction, was not supported by the CWA. The Migratory Bird Rule extended CWA jurisdiction to intrastate waters "which are or would be used as habitat by birds protected by Migratory Bird Treaties or which are or would be used as habitat by other migratory birds which cross state lines..." The Court was concerned that application of the

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Migratory Bird Rule resulted in “reading the term ‘navigable waters’ out of the statute. Highlighting the language of the CWA to determine the statute’s jurisdictional reach, the Court stated, “the term ‘navigable’ has at least the import of showing us what Congress had in mind as its authority for enacting the CWA: its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made.” This decision stands for the proposition that non-navigable isolated, intrastate waters are not waters of the United States and thus are not jurisdictional under the CWA.

In 2006 the United States Supreme Court decided *Rapanos v. United States* and *Carabell v. United States* (collectively “Rapanos”), which were consolidated cases determining the extent of CWA jurisdiction over waters that carry only an infrequent surface flow. The court issued no majority opinion in Rapanos. Instead, the justices authored five separate opinions including the “plurality” opinion, authored by Justice Scalia (joined by three other justices), and a concurring opinion by Justice Kennedy. To guide implementation of the decision, the USACE and USEPA issued a joint guidance memorandum (“Rapanos Guidance Memorandum”) in 2008 stating that “regulatory jurisdiction under the CWA exists over a water body if either the plurality’s or Justice Kennedy’s standard is satisfied.”

According to the plurality opinion in Rapanos, “the waters of the United States include only relatively permanent, standing or flowing bodies of water” and do not include “ordinarily dry channels through which water occasionally or intermittently flows.” In addition, while all wetlands that meet the USACE definition are considered adjacent wetlands, only those adjacent wetlands that have a continuous surface connection because they directly abut the tributary (e.g., they are not separated by uplands, a berm, dike, or similar feature) are considered jurisdictional under the plurality standard.

Under Justice Kennedy’s opinion, “the USACE’s jurisdiction over wetlands depends upon the existence of a significant nexus between the wetlands in question and navigable waters in the traditional sense. Wetlands possess the requisite nexus, and thus come within the statutory phrase ‘navigable waters,’ if the wetlands, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as ‘navigable.’ When, in contrast, wetlands’ effects on water quality are speculative or insubstantial, they fall outside the zone fairly encompassed by the statutory term ‘navigable waters.’” Justice Kennedy identified “pollutant trapping, flood control, and runoff storage” as some of the critical functions wetlands can perform relative to other waters. He concluded that, given wetlands’ ecological role, “mere adjacency” to a non-navigable tributary was insufficient to establish CWA jurisdiction, and that “a more specific inquiry, based on the significant nexus standard, is therefore necessary.”

Interpreting these decisions, and according to the Rapanos Guidance Memorandum, the USACE and USEPA will assert jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and,
- Wetlands that directly abut such tributaries.

The USACE and USEPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and,
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

Where a significant nexus analysis is required, the USACE and USEPA will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters; and,
- Significant nexus includes consideration of hydrologic and ecologic factors.

The USACE and USEPA generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and,
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

## Rivers and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the USACE for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States, and applies to all structures and work. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. It is important to note that Section 10 applies only to navigable waters, and thus does not apply to work in non-navigable wetlands or tributaries. In some cases, Section 10 authorization is issued by the USACE concurrently with CWA Section 404 authorization, such as when certain Nationwide Permits are used.

## Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) have jurisdiction over “waters of the State,” which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code sec. 13050(e)). These agencies also have responsibilities for administering portions of the CWA.

## Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide state certification that the proposed activity will not violate state and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs and by the SWRCB for multi-region projects. The process begins when an applicant submits an application to the RWQCB and informs the USACE (or the applicable agency from which a license or permit was requested) that an application has been submitted. The USACE will then determine a “reasonable period of time” for the RWQCB to act on the application; this is typically 60 days for routine projects and longer for complex projects but may not exceed one year. When the period has elapsed, if the RWQCB has not either issued or denied the application for Section 401 Certification, the USACE may determine that Certification has been waived and issue the requested permit. If a Section 401 Certification is issued it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit.

## Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and ground water and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code section 13000 et seq.), the policy of the State is as follows:

- The quality of all the waters of the State shall be protected
- All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason
- The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation

The Porter-Cologne Act established nine RWQCBs (based on watershed boundaries) and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint source related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). While this requirement was historically applied primarily to outfalls and similar point source discharges, the SWRCB’s *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, effective May 2020, make it clear that the agency will apply the Porter-Cologne Act’s requirements to discharges of dredge and fill material as well. The *Procedures* state that they are to be used in issuing CWA Section 401 Certifications and WDRs, and largely mirror the existing review requirements for CWA Section 404 Permits and Section 401 Certifications, incorporating most elements of the USEPA’s

*Section 404(b)(1) Guidelines.* Following issuance of the *Procedures*, the SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

### **Non-Wetland Waters of the State**

The SWRCB and RWQCBs have not established regulations for field determinations of waters of the state except for wetlands currently. In many cases the RWQCBs interpret the limits of waters of the State to be bounded by the OHWM unless isolated conditions or ephemeral waters are present. However, in the absence of statewide guidance each RWQCB may interpret jurisdictional boundaries within their region and the SWRCB has encouraged applicants to confirm jurisdictional limits with their RWQCB before submitting applications. As determined by the RWQCB, waters of the State may include riparian areas or other locations outside the OHWM, leading to a larger jurisdictional area over a given water body compared to the USACE.

### **Wetland Waters of the State**

Procedures for defining wetland waters of the State pursuant to the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* went into effect May 28, 2020. The SWRCB defines an area as wetland if, under normal circumstances:

- (i) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;
- (ii) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
- (iii) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The SWRCB's Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State (2020), states that waters of the U.S. and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that the methods shall be modified only to allow for the fact that a lack of vegetation does not preclude an area from meeting the definition of a wetland.

## **United States Fish and Wildlife Service**

The United States Fish and Wildlife Service (USFWS) implements several laws protecting the Nation's fish and wildlife resources, including the Endangered Species Act (ESA; 16 United States Code [USC] Sections 153 et seq.), the Migratory Bird Treaty Act (MBTA; 16 USC Sections 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668).

### **Endangered Species Act**

The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the ESA. Generally, the USFWS implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadromous species. Projects that would result in "take" of any threatened or endangered wildlife species, or a threatened or endangered plant species if occurring on federal land, are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of the ESA, depending on the involvement by the federal government in funding, authorizing, or



carrying out the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. “Take” under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of the ESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

## Migratory Bird Treaty Act

The MBTA of 1918 implements four international conservation treaties that the U.S. entered into with Canada in 1916, Mexico in 1936, Japan in 1972, and Russia in 1976. It is intended to ensure the sustainability of populations of all protected migratory bird species. The law has been amended with the signing of each treaty, as well as when any of the treaties were amended, such as with Mexico in 1976 and Canada in 1995. The MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS.

The list of migratory bird species protected by the law, in regulations at 50 CFR Part 10.13, is primarily based on bird families and species included in the four international treaties. A migratory bird species is included on the list if it meets one or more of the following criteria:

1. It occurs in the United States or U.S. territories as the result of natural biological or ecological processes and is currently, or was previously listed as, a species or part of a family protected by one of the four international treaties or their amendments.
2. Revised taxonomy results in it being newly split from a species that was previously on the list, and the new species occurs in the United States or U.S. territories as the result of natural biological or ecological processes.
3. New evidence exists for its natural occurrence in the United States or U.S. territories resulting from natural distributional changes and the species occurs in a protected family.

In 2004, the Migratory Bird Treaty Reform Act limited the scope of the MBTA by stating the MBTA applies only to migratory bird species that are native to the United States or U.S. territories, and that a native migratory bird species is one that is present as a result of natural biological or ecological processes. The MBTRA requires the USFWS to publish a list of all nonnative, human-introduced bird species to which the MBTA does not apply, and an updated list was published in 2020. The 2020 update identifies species belonging to biological families referred to in treaties the MBTA implements but are not protected because their presence in the United States or U.S. territories is solely the result of intentional or unintentional human-assisted introductions.

## Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the USFWS, from “taking” bald or golden eagles, including their parts (including feathers), nests, or eggs. The Act provides criminal penalties for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof.” The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.”

“Disturb” means “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its

productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.”

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle’s return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

## California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) derives its authority from the Fish and Game Code of California and administers several State laws protecting fish and wildlife resources and the habitats upon which they depend.

### California Endangered Species Act

The California Endangered Species Act (CESA) (Fish and Game Code Section 2050 et. seq.) prohibits take of state listed threatened or endangered. Take under CESA is defined as “Hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill” (Fish and Game Code sec. 86). This definition does not prohibit indirect harm by way of habitat modification, except where such harm is the proximate cause of death of a listed species. Where incidental take would occur during construction or other lawful activities, CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated. Unlike the federal ESA, CESA’s protections extend to candidate species during the period (typically one year) while the California Fish and Game Commission decides whether the species warrants CESA listing.

### Native Plant Protection Act

The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (Fish and Game Code Section 1900 et seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare, and prohibits the take of listed plant species. Effective in 2015, CDFW promulgated regulations (14 CCR 786.9) under the authority of the NPPA, establishing that the CESA’s permitting procedures would be applied to plants listed under the NPPA as “Rare.” With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

### Fully Protected Species Laws

The CDFW enforces Sections 3511, 4700, 5050, and 5515 of the Fish and Game Code, which prohibit take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided. The exception is situations where a Natural Community Conservation Plan (NCCP) is in place that authorizes take of the fully protected species.

## Avian Protection Laws

California Fish and Game Code sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Section 3513 makes it a state-level offense to take any bird in violation of the federal Migratory Bird Treaty Act.

## Protection of Lakes and Streambeds

California Fish and Game Code section 1602 states that it is unlawful for any person to “substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake” without first notifying the California Department of Fish and Wildlife (CDFW) of that activity. Thereafter, if CDFW determines and informs the entity that the activity will not substantially adversely affect any existing fish or wildlife resources, the entity may commence the activity. If, however, CDFW determines that the activity may substantially adversely affect an existing fish or wildlife resource, the entity may be required to obtain from CDFW a Streambed Alteration Agreement (SAA), which will include reasonable measures necessary to protect the affected resource(s), before the entity may conduct the activity described in the notification. Upon receiving a complete Notification of Lake/Streambed Alteration, CDFW has 60 days to present the entity with a Draft SAA. Upon review of the Draft SAA by the applicant, any problematic terms are negotiated with CDFW and a final SAA is executed.

The CDFW has not defined the term “stream” for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. However, four relevant sources of information offer insight as to the appropriate limits of CDFW jurisdiction as discussed below.

- **The plain language of Section 1602 of CFGC** establishes the following general concepts:
  - References “river,” “stream,” and “lake”
  - References “natural flow”
  - References “bed,” “bank,” and “channel”
- **Applicable court decisions**, in particular *Rutherford v. State of California* (188 Cal App. 3d 1276 (1987)), which interpreted Section 1602’s use of “stream” to be as defined in common law. The Court indicated that a “stream” is commonly understood to:
  - Have a source and a terminus
  - Have banks and a channel
  - Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry
  - Represent the depression between the banks worn by the regular and usual flow of the water
  - Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
  - Include the land that is covered by the water in its ordinary low stage
  - Include lands below the OHWM

- **CDFW regulations** defining “stream” for other purposes, including sport fishing (14 CCR 1.72) and streambed alterations associated with cannabis production (14 CCR 722(c)(21)), which indicate that a stream:
  - Flows at least periodically or intermittently
  - Flows through a bed or channel having banks
  - Supports fish or aquatic life
  - Can be dry for a period of time
  - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation
  
- **Guidance documents**, including *A Field Guide to Lake and Streambed Alteration Agreements* (CDFG 1994) and *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (Brady and Vyverberg 2013), which suggest the following:
  - A stream may flow perennially or episodically
  - A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)
  - Width of a stream course can reasonably be identified by physical or biological indicators
  - A stream may have one or more channels (single thread vs. compound form)
  - Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse
  - Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife
  - Biologic components of a stream may include aquatic and riparian vegetation, all aquatic wildlife including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
  - The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, are applied to establish the boundaries of streambeds in various environments. Importance of each factor may be weighted based on site-specific considerations and the applicability of the indicators to the streambed at hand.

## County of San Luis Obispo

The project is located within the County of San Luis Obispo and is subject to the Policies set forth in the County of San Luis Obispo Plan as well as associated Ordinances in the County’s Code.

### General Plan - Conservation and Open Space Element

The County’s General Plan Conservation and Open Space Element outlines goals and policies that aim to preserve biodiversity, sustain healthy ecosystems, enhance degraded habitats, and protect the diverse landscapes throughout the County. Major goals include protecting special status species,

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protecting and enhancing native habitat, and preserving wetlands and aquatic habitats (including fisheries and marine resources).

Policies regarding resource protection include:

- **Policy BR-1.2 Limit Development Impacts:** Regulate and minimize proposed development in areas that contain essential habitat for special status species, sensitive natural communities, wetlands, coastal and riparian habitats, and wildlife habitat and movement corridors as necessary to ensure the continued health and survival of these species and protection of sensitive areas.
- **Policy BR-1.4 No Net Loss:** Require that development projects are approved with conditions and mitigation measures to ensure the protection of sensitive resources and to achieve “no net loss” of sensitive habitat acreage, values, and function. Give highest priority to avoidance of sensitive habitat. When avoidance is not feasible, require provision of replacement habitat onsite through restoration and/or habitat creation. When onsite mitigation is not feasible, provide for offsite mitigation that reflects no net loss.
- **Policy BR-1.9 Preserve Ecotones:** Require that proposed discretionary development protects and enhances ecotones, or natural transitions between habitat types because of their importance to vegetation and wildlife. Ecotones of particular concern include those along the margins of riparian corridors, baylands and marshlands, vernal pools, and woodlands and forests where they transition to grasslands and other habitat types.
- **Policy BR-1.12 Development Impacts to Corridors:** Ensure that important corridors for wildlife movement and dispersal are protected as a condition of discretionary permits. Provide linkages and corridors as needed to connect sensitive habitat areas such as woodlands, forests, and wetlands.
- **Policy BR-1.13 Maintain Safe Wildlife Movement:** Maintain and enhance existing stream channels and riparian corridors to provide for wildlife movement at roadway crossings.
- **Policy BR-1.15 Restrict Disturbance in Sensitive Habitat during Nesting Season:** Avoid impacts to sensitive riparian corridors, wetlands, and coastal areas to protect bird-nesting activities.
- **Policy BR-2.6 Development Impacts to Listed Species:** Ensure that potential adverse impacts to threatened, rare, and endangered species from development are avoided or minimized through project siting and design. Ensure that proposed development avoids significant disturbance of sensitive natural plant communities that contain special status plant species or provide critical habitat to special status animal species. When avoidance is not feasible, require no net loss of sensitive natural plant communities and critical habitat areas.
- **Policy BR-2.8 Invasive Plant Species:** Promote and support efforts to reduce the effects of noxious weeds on natural habitats. The County will work with local resource and land management agencies to develop a comprehensive approach to controlling the spread of non-native invasive species and reducing their extent on both public and private land.
- **Policy BR-3.1 Native Tree Protection:** Protect native and biologically valuable trees, oak woodlands, trees with historical significance, and forest habitats to the maximum extent feasible.
- **Policy BR-3.5 Non-native Trees:** Protect healthy and non-hazardous, non-native trees (e.g., eucalyptus groves) and forests that provide raptor nesting or roosting sites or support colonies of monarch butterflies.
- **Policy BR-4.1 Protect Stream Resources:** Protect streams and riparian vegetation to preserve water quality and flood control functions and associated fish and wildlife habitat.

- **Policy BR-4.2 Minimize Impacts from Development:** Minimize the impacts of public and private development on streams and associated riparian vegetation due to construction, grading, resource extraction, and development near streams.
- **Policy BR-5.1 Protect Wetlands:** Require development to avoid wetlands and provide upland buffers.
- **Policy BR-5.2 No Net Loss of Wetlands:** Ensure that all public and private projects avoid impacts to wetlands if feasible. If avoidance is not feasible, ensure no net loss of wetlands, consistent with state and federal regulations and this Element.

## General Plan - Local Coastal Program and Land Use Element

Applicable policies and standards put forth in the Local Coastal Program Policy Document, which is a component of the Local Coastal Program and Land Use Element, are intended to address the issues of the California Coastal Act within the scope of the General Plan. Such policies include the following:

- **Policy 26 Riparian Vegetation:** Cutting or alteration of naturally occurring vegetation that protects riparian habitat is not permitted except for permitted streambed alterations and where no feasible alternative exists or an issue of public safety exists. This policy does not apply to agricultural use of land where expanding vegetation is encroaching on established agricultural uses. Minor incidental public works project may also be permitted where no feasible alternative exists including but not limited to utility lines, pipelines, driveways and roads. Riparian vegetation shall not be removed to increase agricultural acreage unless it is demonstrated that no impairment of the functional capacity of the habitat will occur. Where permitted, such actions must not cause significant stream bank erosion, have a detrimental effect on water quality or quantity, or impair the wildlife habitat values of the area. This must be in accordance with the necessary permits required by Sections 1601 and 1603 of the California Fish and Game Code.
- **Policy 28 Buffer Zone for Riparian Habitats:** In rural areas (outside the USL) a buffer setback zone of 100 ft. shall be established between any new development (including new agricultural development) and the upland edge of riparian habitats. In urban areas this minimum standard shall be 50 ft. except where a lesser buffer is specifically permitted. The buffer zone shall be maintained in natural condition along the periphery of all streams. Permitted uses within the buffer strip shall be limited to passive recreational, educational or existing nonstructural agricultural developments in accordance with adopted best management practices. Other uses that may be found appropriate are limited to utility lines, pipelines, drainage and flood control facilities, bridges and road approaches to bridges to cross a stream and roads when it can be demonstrated that: 1) alternative routes are infeasible or more environmentally damaging and 2) adverse environmental effects are mitigated to the maximum extent feasible. Lesser setbacks on existing parcels may be permitted if application of the minimum setback standard would render the parcel physically unusable for the principal permitted use. In allowing a reduction in the minimum setbacks, they shall be reduced only to the point at which a principal permitted use (as modified as much as is practical from a design standpoint) can be accommodated.
- **Policy 29 Protection of Terrestrial Habitats:** Designated plant and wildlife habitats are environmentally sensitive habitat areas and emphasis for protection should be placed on the entire ecological community. Only uses dependent on the resource shall be permitted within the identified sensitive habitat portion of the site. Development adjacent to environmentally sensitive habitat areas and holdings of the State Department of Parks and Recreation shall be

sited and designed to prevent impacts that would significantly degrade such areas and shall be compatible with the continuance of such habitat areas.

- **Policy 30 Protection of Native Vegetation:** Native trees and plant cover shall be protected wherever possible. Native plants shall be used where vegetation is removed.
- **Policy 35 Protection of Vegetation:** Vegetation which is rare or endangered or serves as cover for endangered wildlife shall be protected against any significant disruption of habitat value. All development shall be designed to disturb the minimum amount possible of wildlife or plant habitat.

## County Code

The San Luis Obispo County Oak Woodland Ordinance<sup>3</sup> (Ordinance) took effect on May 11, 2017. The San Luis Obispo County Tree Ordinance was initiated to regulate the clear cutting of oak woodlands. The ordinance applies only to the clear-cutting of oak woodland, which would consist of the removal of contiguous trees that occupy an area of one acre or more. Oak woodland is defined as a group of trees occupying an acre or more with a reasonably uniform composition that is dominated by one or more of the following species: blue oak (*Quercus douglasii*), coast live oak, interior live oak (*Quercus wislizeni*), valley oak (*Quercus lobata*), and California black oak (*Quercus kelloggii*). The ordinance does not apply for the removal of individual oak trees except for Heritage oaks (any individual oak species, as defined by the ordinance, of 48 in. diameter at breast height (dbh) or greater, separated from all stands and Oak Woodlands by at least 500 ft.). Further, the ordinance does not apply to woodland thinning, tree trimming, or oak trees that are diseased, dead or creating a hazardous condition. This Ordinance would not apply to individual tree impacts associated with the project.

San Luis Obispo County Code Title 22, Chapter 22.56 of the County Code prohibits the removal of trees (County of San Luis Obispo, 2018) without first obtaining a tree removal permit. Zoning Clearance (Section 22.62.030), is required before the removal or replacement of any existing trees except trees that are:

- Identified and approved for removal in an approved Zoning Clearance, Site Plan Review, Minor Use Permit or Conditional Use Permit, provided that such removal is subject to the standards of Section 22.56.030 (Tree Removal Standards); or
- Located within residential land use categories on sites developed with residential uses; or
- Located within or adjacent to a public or public utility right-of-way, when such trees are to be removed by a public agency, public utility or are to be removed under an encroachment permit issued by a public agency having jurisdiction; or
- In a hazardous condition which presents an immediate danger to health or property; or
- With trunks measuring less than eight in. in diameter at four ft. above grade; or
- To be removed in preparation for agricultural cultivation and crop production in an Agriculture land use category.
- To be removed as part of management practice in orchards of commercial agricultural production.

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<sup>3</sup> The San Luis Obispo County Oak Woodland Ordinance does not apply to projects within the Coastal Zone.

Land use permit applications that propose tree removal are to include all information specified by Section 22.62.030 (Zoning Clearance Content), and the following.

- The size, species and condition (e.g., diseased, healthy, etc.) of each tree proposed for removal.
- The purpose of removal.
- The size and species of any trees proposed to replace those intended for removal

Applications for tree removal in compliance with Section 22.56.020 are to be approved only when the following conditions are satisfied:

- 1) **Tagging required.** Trees proposed for removal shall be identified for field inspection by means of flagging, staking, paint spotting or other means readily visible but not detrimental to a healthy tree.
- 2) **Removal criteria.** A tree may be removed only when the tree is any of the following:
  - Dead, diseased beyond reclamation, or hazardous;
  - Crowded, with good horticultural practices dictating thinning;
  - Interfering with existing utilities, structures or right-of-way improvements;
  - Obstructing existing or proposed improvements that cannot be reasonably designed to avoid the need for tree removal;
  - Inhibiting sunlight needed for either active or passive solar heating or cooling, and the building or solar collectors cannot be oriented to collect sufficient sunlight without total removal of the tree;
  - In conflict with an approved fire safety plan where required by Chapter 22.50;
  - To be replaced by a tree that will provide equal or better shade, screening, solar efficiency or visual amenity within a 10-year period, as verified in writing by a registered landscape architect, licensed landscaping contractor or certified nurseryman.
- 3) **Replacement.** Any tree removed to accommodate new development or because it is a safety hazard shall be replaced, in a location on the site and with a species common to the community, as approved by the Planning Director.
- 4) **Tree removal within public view corridors.** Tree removal within public view corridors (areas visible from collector or arterial roads) shall be minimized in accordance with Visual and Scenic Resources Policy 5.
- 5) **Preservation of trees and natural vegetation.** New development shall incorporate design techniques and methods that minimize the need for tree removal.

## California Coastal Commission

In October 1972, the United States Congress passed Title 16 USC Sections 1451-1464, which established a federal coastal zone management policy and created a federal coastal zone. By that legislation, the Congress declared a national interest in the effective management, beneficial use, protection and development of the coastal zone in order to balance the nation's natural, environmental and aesthetic resource needs with commercial-economic growth. The Congress found and declared that it was a national policy "to encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone



giving full consideration to ecological, cultural, historic, and aesthetic values as well as to the need for economic development (16 USC Section 1452b). As a result of that federal enactment, coastal states were provided a policy and source of funding for the implementation of federal goals.

The California Coastal Zone Conservation Act of 1972 (Proposition 20) was a temporary measure passed by the voters of the state as a ballot initiative. It set up temporary regional Coastal Commissions with permit authority and a directive to prepare a comprehensive coastal plan. The coastal commissions under Proposition 20 lacked the authority to implement the Coastal Plan but were required to submit the Plan to the legislature for “adoption and implementation.”

The California Coastal Act (CCA) of 1976 is the permanent enacting law approved by the State legislature. The Coastal Act established a different set of policies, a different boundary line, and different permitting procedures than Proposition 20. Furthermore, it provides for the transfer of permitting authority, with certain limitations reserved for the State, to local governments through adoption and certification of LCPs by the California Coastal Commission (CCC). In accordance with the CCA, the CCC defines coastal wetlands as generally extending seaward to the state’s outer limit of jurisdiction (i.e., three nautical miles from the MHTL) and inland generally 1,000 yards from the MHTL (CCC 2011). In contrast to wetland waters of the U.S., potential coastal wetland features are defined by the presence of one of the three USACE wetland indicators (California Code of Regulations Title 14 (14 CCR)). The one parameter definition as follows:

Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. (14 CCR Section 13577).

# Appendix B

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Special Status Species Evaluation Tables

## Special Status Plant Species in the Regional Vicinity of the BSA

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Agrostis hooveri</i> Hoover's bent grass	None/None G2/S2 1B.2	Perennial herb. Chaparral, cismontane woodland, closed-cone coniferous forest, valley and foothill grassland. Sandy (usually). Elevations: 20-2000ft. (6-610m.) Blooms Apr-Jul.	Not Expected	No suitable chaparral, cismontane woodland, closed-cone coniferous forest, or valley and foothill grassland are present within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1992 and is located approximately 2.2 miles east of the BSA.
<i>Aphanisma blitoides</i> aphanisma	None/None G3G4/S2 1B.2	Annual herb. Coastal bluff scrub, coastal dunes, coastal scrub. Gravelly (sometimes), sandy (sometimes). Elevations: 5-1000ft. (1-305m.) Blooms Feb-Jun.	Not Expected	Limited disturbed coastal scrub habitat is present in the BSA. The only CNDDDB occurrence within the surveyed quadrangles is from 1951 and is located approximately 14 miles south of the BSA.
<i>Arctostaphylos luciana</i> Santa Lucia manzanita	None/None G2/S2 1B.2	Perennial evergreen shrub. Chaparral, cismontane woodland. Shale. Elevations: 1150-2790ft. (350-850m.) Blooms Dec-Mar.	Not Expected	No suitable chaparral or cismontane woodland habitats are present within the BSA. Shale is absent from the BSA. The BSA is outside of the elevation range for this species.
<i>Arctostaphylos pechoensis</i> Pecho manzanita	None/None G2/S2 1B.2	Perennial evergreen shrub. Chaparral, closed-cone coniferous forest, coastal scrub. Grows on siliceous shale with other chaparral associates. Elevations: 410-2790ft. (125-850m.) Blooms Nov-Mar.	Not Expected	No suitable chaparral or cismontane woodland habitats are present within the BSA. Shale is absent from the BSA. The BSA is outside of the elevation range for this species.
<i>Arctostaphylos pilosula</i> Santa Margarita manzanita	None/None G2?/S2? 1B.2	Perennial evergreen shrub. Broadleaved upland forest, chaparral, cismontane woodland, closed-cone coniferous forest. Sandstone (sometimes). Elevations: 245-3610ft. (75-1100m.) Blooms Dec-May.	Not Expected	No suitable broadleaved upland forest, cismontane woodland, or closed-cone coniferous forest are present within the BSA. Sandstone is absent from the BSA. The BSA is outside of the elevation range for this species.
<i>Arctostaphylos purissima</i> La Purisima manzanita	None/None G2?/S2? 1B.1	Perennial evergreen shrub. Chaparral, coastal scrub. Sandstone outcrops, sandy soil. Elevations: 195-1280ft. (60-390m.) Blooms Nov-May.	Not Expected	Limited disturbed coastal scrub habitat is present in the BSA. Additionally, sandstone is absent from the BSA. The BSA is outside of the elevation range for this species.
<i>Arctostaphylos rudis</i> sand mesa manzanita	None/None G2/S2 1B.2	Perennial evergreen shrub. Chaparral, coastal scrub. Sandy. Elevations: 80-1055ft. (25-322m.) Blooms Nov-Feb.	Low Potential	Limited disturbed coastal scrub habitat is present in the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1991 and located approximately 1.8 miles north of the BSA.

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Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Arenaria paludicola</i> marsh sandwort	FE/SE G1/S1 1B.1	Perennial stoloniferous herb. Marshes and swamps. Openings, sandy. Elevations: 10-560ft. (3-170m.) Blooms May-Aug.	Not Expected	No suitable marsh habitat is present within the BSA; however, potentially suitable marsh habitat for this species is located adjacent to Segments 2-1 and 2-2. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1965 and is located approximately 1.6 miles northwest of the BSA; this population is considered to be extirpated due to development (CDFW 2022a). While potentially suitable marsh habitat is present adjacent to the BSA, construction will be limited to the public ROW and other previously- disturbed areas; therefore, this species does not have potential to occur in the BSA and no effects to the species are anticipated.
<i>Calochortus obispoensis</i> San Luis mariposa-lily	None/None G2/S2 1B.2	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Serpentinite (often). Elevations: 165-2395ft. (50-730m.) Blooms May-Jul.	Not Expected	Limited disturbed coastal scrub habitat is present in the BSA. Serpentinite is absent from the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1995 and is located approximately 2.5 miles north of the BSA.
<i>Calochortus simulans</i> La Panza mariposa-lily	None/None G2/S2 1B.3	Perennial bulbiferous herb. Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Granitic (often), sandy, serpentinite (sometimes). Elevations: 1065-3775ft. (325-1150m.) Blooms Apr-Jun.	Not Expected	No suitable chaparral, cismontane woodland, lower montane coniferous forest, or valley and foothill grassland are present within the BSA. The BSA is outside of the elevation range for this species.
<i>Carex obispoensis</i> San Luis Obispo sedge	None/None G3?/S3? 1B.2	Perennial cespitose herb. Chaparral, closed-cone coniferous forest, coastal prairie, coastal scrub, valley and foothill grassland. Usually in transition zone on sand, clay, serpentine, or gabbro. In seeps. Elevations: 35-2690ft. (10-820m.) Blooms Apr-Jun.	Not Expected	Limited disturbed coastal scrub habitat is present in the BSA. The only CNDDDB occurrence within the surveyed quadrangles is from 2011 and is located approximately 10.5 miles northwest of the BSA.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Castilleja densiflora</i> var. <i>obispoensis</i> San Luis Obispo owl's-clover	None/None G5T2/S2 1B.2	Annual herb (hemiparasitic). Meadows and seeps, valley and foothill grassland. Serpentinite (sometimes). Elevations: 35-1410ft. (10-430m.) Blooms Mar-May.	Not Expected	No suitable meadows and seeps or valley and foothill grassland habitats are present within the BSA. Serpentinite is absent from the BSA. Multiple CNDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2022 and is located approximately 2.2 miles northeast of the BSA.
<i>Caulanthus californicus</i> California jewelflower	FE/SCE G1/S1 1B.1	Annual herb. Chenopod scrub, pinyon and juniper woodland, valley and foothill grassland. Sandy. Elevations: 200-3280ft. (61-1000m.) Blooms Feb-May.	Not Expected	No suitable habitat occurs within the BSA. The BSA is outside of the elevation range for this species. No CNDDB occurrences are located within the surveyed quadrangles (CDFW 2022a).
<i>Ceanothus impressus</i> var. <i>impressus</i> Santa Barbara ceanothus	None/None G3T3/S3 1B.2	Perennial shrub. Chaparral. Sandy. Elevations: 130-1540ft. (40-470m.) Blooms Feb-Apr.	Not Expected	No suitable chaparral habitat is present within the BSA.
<i>Ceanothus impressus</i> var. <i>nipomensis</i> Nipomo Mesa ceanothus	None/None G3T2/S2 1B.2	Perennial shrub. Chaparral. Sandy. Elevations: 100-805ft. (30-245m.) Blooms Feb-Apr.	Not Expected	No suitable chaparral habitat is present within the BSA. Multiple CNDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2010 and is located approximately 2.9 miles south of the BSA.
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	None/None G3T2/S2 1B.1	Annual herb. Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. Elevations: 0-755ft. (0-230m.) Blooms May-Oct(Nov).	Not Expected	No suitable valley and foothill grassland habitat are present within the BSA. Alkaline soils are absent from the BSA.
<i>Chenopodium littoreum</i> coastal goosefoot	None/None G1/S1 1B.2	Annual herb. Coastal dunes. Generally on sandy soils, and on dunes. Elevations: 35-100ft. (10-30m.) Blooms Apr-Aug.	Not Expected	No coastal dunes are present within the BSA. Multiple CNDDB occurrences are located within 5 miles of the BSA, including one occurrence from 1931 located within the BSA. However, this occurrence location and the surrounding areas have since been developed and are no longer suitable for this species.
<i>Chlorogalum pomeridianum</i> var. <i>minus</i> dwarf soaproot	None/None G5T3/S3 1B.2	Perennial bulbiferous herb. Chaparral. Serpentine. Elevations: 1000-3280ft. (305-1000m.) Blooms May-Aug.	Not Expected	No suitable chaparral habitat is present within the BSA. Serpentine is absent from the BSA. The BSA is outside of the elevation range for this species. Two CNDDB occurrences are located within the surveyed quadrangles, the closest of which is located approximately 3.6 miles northwest of the BSA.

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Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Chorizanthe aphanantha</i> Irish Hills spineflower	None/None G1/S1 1B.1	Annual herb. Chaparral, coastal scrub. Gravelly, rocky, serpentinite. Elevations: 330-1215ft. (100-370m.) Blooms Apr-Jun.	Not Expected	Limited disturbed coastal scrub habitat is present in the BSA. Gravelly, rocky, and serpentinite soils are absent from the BSA. The BSA is outside of the elevation range for this species.
<i>Chorizanthe breweri</i> Brewer's spineflower	None/None G3/S3 1B.3	Annual herb. Chaparral, cismontane woodland, closed-cone coniferous forest, coastal scrub. Gravelly (sometimes), rocky (sometimes), serpentinite. Elevations: 150-2625ft. (45-800m.) Blooms Apr-Aug.	Not Expected	Limited disturbed coastal scrub habitat is present in the BSA. Gravelly, rocky, and serpentinite soils are absent from the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1977 and is located approximately 5.4 miles north of the BSA.
<i>Cirsium fontinale</i> var. <i>obispoense</i> Chorro Creek bog thistle	FE/SCE G2T2/S2 1B.2	Perennial herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Drainages, seeps, serpentinite. Elevations: 115-1265ft. (35-385m.) Blooms Feb-Jul(Aug-Sep).	Not Expected	Limited disturbed coastal scrub habitat is present in the BSA. There are no CNDDDB occurrences within a 5-mile radius of the BSA (CDFW 2022a).
<i>Cirsium occidentale</i> var. <i>compactum</i> compact cobwebby thistle	None/None G3G4T2/S2 1B.2	Perennial herb. Chaparral, coastal dunes, coastal prairie, coastal scrub. On dunes and on clay in chaparral; also in grassland. Elevations: 15-490ft. (5-150m.) Blooms Apr-Jun.	Not Expected	Limited disturbed coastal scrub habitat is present in the BSA. There are no CNDDDB occurrences within a 5-mile radius of the BSA.
<i>Cirsium rhotophilum</i> surf thistle	None/ST G1/S1 1B.2	Perennial herb. Coastal bluff scrub, coastal dunes. Open areas in central dune scrub; usually in coastal dunes. Elevations: 10-195ft. (3-60m.) Blooms Apr-Jun.	Not Expected	No suitable coastal bluff scrub or coastal dunes are present within the BSA.
<i>Cirsium scariosum</i> var. <i>loncholepis</i> La Graciosa thistle	FE/ST G5T1/S1 1B.1	Perennial herb. Cismontane woodland, coastal dunes, coastal scrub, marshes and swamps, valley and foothill grassland. Mesic, sandy. Elevations: 15-720ft. (4-220m.) Blooms May-Aug.	Low Potential	Limited disturbed coastal scrub habitat is present in the BSA; however, these habitats are located outside of the project site and will not be impacted during construction. Federally- designated critical habitat for La Graciosa thistle is located approximately 0.1 mile south of the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the most recent of which is from 2019 and is located approximately 1.8 miles south of the BSA. An additional occurrence from 1969 is located within 100 feet of the BSA; however, this population was documented as extirpated in 2017 due to incursion

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Cladium californicum</i> California saw-grass	None/None G4/S2 2B.2	Perennial rhizomatous herb. Marshes and swamps, meadows and seeps. Freshwater or alkaline moist habitats. Elevations: 195-5250ft. (60-1600m.) Blooms Jun-Sep.	Not Expected	of non-native invasive ice plant (CDFW 2022a). This species has low potential to occur in coastal scrub habitats adjacent to Segments 1-5, 1-11, and 3-4. No suitable marsh habitat is present in the BSA. The only CNDDDB occurrence within the surveyed quadrangle is from the 1990s and is located approximately 2.7 miles southeast of the BSA.
<i>Clarkia speciosa</i> ssp. <i>immaculata</i> Pismo clarkia	FE/SR G4T1/S1 1B.1	Annual herb. Chaparral, cismontane woodland, valley and foothill grassland. Sandy. Elevations: 80-605ft. (25-185m.) Blooms May-Jul.	Not Expected	No suitable habitat occurs within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1987 and is located approximately 1.5 miles north of the BSA (CDFW 2022a). Therefore, this species does not have potential to occur and no effects to the species are anticipated.
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> salt marsh bird's-beak	FE/SCE G4?T1/S1 1B.2	Annual herb (hemiparasitic). Coastal dunes, marshes and swamps. Limited to the higher zones of salt marsh habitat. Elevations: 0-100ft. (0-30m.) Blooms May-Oct (Nov).	Not Expected	Potentially suitable marsh habitat is present within the BSA. No CNDDDB occurrences are located within a 5-mile radius of the BSA (CDFW 2022a).
<i>Deinandra increscens</i> ssp. <i>villosa</i> Gaviota tarplant	FE/SE G4G5T2/S2 1B.1	Annual herb. Coastal bluff scrub, coastal scrub, valley and foothill grassland. Known from coastal terrace near Gaviota; sandy blowouts amid sandy loam soil; grassland/coast scrub ecotone. Elevations: 65-1410ft. (20-430m.) Blooms May-Oct.	Not Expected	Limited disturbed coastal scrub habitat is present in the BSA. The only CNDDDB occurrence located within the surveyed quadrangle is from 2011 and is located approximately 15 miles south of the BSA (CDFW 2022a).
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i> dune larkspur	None/None G4T2/S2 1B.2	Perennial herb. Chaparral, coastal dunes. On rocky areas and dunes. Elevations: 0-655ft. (0-200m.) Blooms Apr-Jun.	Not Expected	No suitable chaparral or coastal dune habitat is present within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1957 and is located approximately 1.9 miles south of the BSA.
<i>Delphinium parryi</i> ssp. <i>eastwoodiae</i> Eastwood's larkspur	None/None G4T2/S2 1B.2	Perennial herb. Chaparral, valley and foothill grassland. Serpentine. Openings. Elevations: 245-1640ft. (75-500m.) Blooms (Feb)Mar-Apr.	Not Expected	No suitable chaparral or valley and foothill grassland habitat is present within the BSA. Serpentine is absent from the BSA. The BSA is outside of the elevation range for this species. There are no CNDDDB occurrences within a 5-mile radius of the BSA.

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<i>Delphinium umbraculorum</i> umbrella larkspur	None/None G3/S3 1B.3	Perennial herb. Chaparral, cismontane woodland. Mesic sites. Elevations: 1310-5250ft. (400-1600m.) Blooms Apr-Jun.	Not Expected	No suitable chaparral or cismontane woodland habitat is present within the BSA. The BSA is outside of the elevation range for this species.
<i>Dithyrea maritima</i> beach spectaclepod	None/ST G1/S1 1B.1	Perennial rhizomatous herb. Coastal dunes, coastal scrub. Sea shores, on sand dunes, and sandy places near the shore. Elevations: 10-165ft. (3-50m.) Blooms Mar-May.	Not Expected	Limited disturbed coastal scrub habitat is present within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1950 and is located approximately 1.2 miles northwest of the BSA. This population has since been extirpated due to off-road vehicle traffic and incursion of non-native invasive species.
<i>Dudleya abramsii</i> ssp. <i>bettinae</i> Betty's dudleya	None/None G4T2/S2 1B.2	Perennial herb. Chaparral, coastal scrub, valley and foothill grassland. On rocky, barren exposures of serpentine within scrub vegetation. Elevations: 65-590ft. (20-180m.) Blooms May-Jun.	Not Expected	Limited disturbed coastal scrub habitat is present within the BSA. Serpentine is absent from the BSA. The only CNDDDB occurrence within the surveyed quadrangles is from 2008 and is located approximately 10.2 miles north of the BSA.
<i>Dudleya abramsii</i> ssp. <i>murina</i> mouse-gray dudleya	None/None G4T2/S2 1B.3	Perennial herb. Chaparral, cismontane woodland, valley and foothill grassland. Serpentine outcrops. Elevations: 295-1725ft. (90-525m.) Blooms May-Jun.	Not Expected	No suitable chaparral, cismontane woodland, or valley and foothill grassland habitat is present within the BSA. The BSA is outside of the elevation range for this species.
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i> Blochman's dudleya	None/None G3T2/S2 1B.1	Perennial herb. Chaparral, coastal bluff scrub, coastal scrub, valley and foothill grassland. Open, rocky slopes; often in shallow clays over serpentine or in rocky areas with little soil. Elevations: 15-1475ft. (5-450m.) Blooms Apr-Jun.	Not Expected	Limited disturbed coastal scrub habitat is present within the BSA. Rocky areas and serpentine are absent from the BSA.
<i>Erigeron blochmaniae</i> Blochman's leafy daisy	None/None G2/S2 1B.2	Perennial rhizomatous herb. Coastal dunes, coastal scrub. Sand dunes and hills. Elevations: 10-150ft. (3-45m.) Blooms Jun-Aug.	Low Potential	Limited disturbed coastal scrub habitat is present within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2012 and is located within 200 feet of the BSA.
<i>Eriodictyon altissimum</i> Indian Knob mountainbalm	FE/SE G1/S1 1B.1	Perennial evergreen shrub. Chaparral, cismontane woodland, coastal scrub. Ridges in open, disturbed areas within chaparral on Pismo sandstone. Elevations: 260-885ft. (80-270m.) Blooms Mar-Jun.	Not Expected	Limited disturbed coastal scrub habitat is present within the BSA. The BSA is outside of the elevation range for this species.



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<i>Eryngium aristulatum</i> var. <i>hooveri</i> Hoover's button-celery	None/None G5T1/S1 1B.1	Annual/perennial herb. Vernal pools. Alkaline depressions, vernal pools, roadside ditches and other wet places near the coast. Elevations: 10-150ft. (3-45m.) Blooms (Jun)Jul(Aug).	Not Expected	No vernal pools are present within the BSA.
<i>Erythranthe serpentinicola</i> Irish Hills monkeyflower	None/None G1/S1 1B.1	Chaparral, Meadows and seeps. Mesic, Openings, Rocky, Serpentinite. Elevations: 195-1180ft. (60-360m.) Blooms Feb-May.	Not Expected	No suitable chaparral or meadows and seeps are present within the BSA. The BSA is outside of the elevation range for this species.
<i>Hesperocyparis macrocarpa</i> Monterey cypress	None/None G1/S1 1B.2	Perennial evergreen tree. Closed-cone coniferous forest. Granitic soils. Elevations: 35-100ft. (10-30m.)	Present	Ornamentally- planted Monterey cypress trees are present throughout the BSA.
<i>Horkelia cuneata</i> var. <i>puberula</i> mesa horkelia	None/None G4T1/S1 1B.1	Perennial herb. Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. Elevations: 230-2660ft. (70-810m.) Blooms Feb-Jul(Sep).	Low Potential	Limited disturbed coastal scrub habitat is present within the BSA. The BSA is outside of the elevation range for this species.
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	None/None G4T1?/S1? 1B.1	Perennial herb. Chaparral, closed-cone coniferous forest, coastal dunes, coastal scrub. Old dunes, coastal sandhills; openings. Sandy or gravelly soils. Elevations: 35-655ft. (10-200m.) Blooms Apr-Sep.	Low Potential	Limited disturbed coastal scrub habitat is present within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the most recent of which is from 1998 and is located approximately 3.4 miles south of the BSA.
<i>Layia jonesii</i> Jones' layia	None/None G2/S2 1B.2	Annual herb. Chaparral, valley and foothill grassland. Clay soils and serpentine outcrops. Elevations: 15-1310ft. (5-400m.) Blooms Mar-May.	Not Expected	No suitable chaparral or valley and foothill grassland habitat is present within the BSA. There are no CNDDDB occurrences within a 5-mile radius of the BSA.
<i>Lupinus ludovicianus</i> San Luis Obispo County lupine	None/None G1/S1 1B.2	Perennial herb. Chaparral, cismontane woodland. Open areas in sandy soil, Santa Margarita formation. Elevations: 165-1725ft. (50-525m.) Blooms Apr-Jul.	Not Expected	No suitable chaparral or cismontane woodland habitat is present within the BSA. The BSA is outside of the elevation range for this species.
<i>Lupinus nipomensis</i> Nipomo Mesa lupine	FE/SCE G1/S1 1B.1	Annual herb. Coastal dunes. Dry sandy flats, restricted to back dunes, associated with central dune scrub habitat - a rare community type. Elevations: 35-165ft. (10-50m.) Blooms Dec-May.	Not Expected	No suitable coastal dune habitat is present within the BSA. Several CNDDDB occurrences are located within the surveyed quadrangles, all of which are located approximately 2.8 miles south of the BSA.
<i>Malacothamnus gracilis</i> slender bush-mallow	None/None G1Q/S1 1B.1	Perennial deciduous shrub. Chaparral. Dry, rocky slopes. Elevations: 625-1885ft. (190-575m.) Blooms May-Oct.	Not Expected	No suitable chaparral habitat is present within the BSA. There are no CNDDDB occurrences within a 5-mile radius of the BSA.

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<i>Monardella palmeri</i> Palmer's monardella	None/None G2/S2 1B.2	Perennial rhizomatous herb. Chaparral, cismontane woodland. On serpentine, often found associated with Sargent cypress forests. Elevations: 655-2625ft. (200-800m.) Blooms Jun-Aug.	Not Expected	No suitable chaparral or cismontane woodland habitat is present within the BSA. No serpentine is present within the BSA. The BSA is outside of the elevation range for this species. No CNDDDB occurrences are located within the surveyed quadrangles.
<i>Monardella sinuata</i> ssp. <i>sinuata</i> southern curly-leaved monardella	None/None G3T2/S2 1B.2	Annual herb. Chaparral, cismontane woodland, coastal dunes, coastal scrub. Sandy soils. Elevations: 0-985ft. (0-300m.) Blooms Apr-Sep.	Low Potential	Limited disturbed coastal scrub habitat is present within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1935 and is located within 10 feet of the BSA; however, this area has since been developed. An additional occurrence from 1908 is located approximately 1.8 miles northeast of the BSA.
<i>Monardella undulata</i> ssp. <i>crispa</i> crisp monardella	None/None G3T2/S2 1B.2	Perennial rhizomatous herb. Coastal dunes, coastal scrub. Often on the borders of open, sand areas, usually adjacent to typical backdune scrub vegetation. Elevations: 35-395ft. (10-120m.) Blooms Apr-Aug(Dec).	Low Potential	Limited disturbed coastal scrub habitat is present within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2004 and is located approximately 0.8 mile southwest of the BSA.
<i>Monardella undulata</i> ssp. <i>undulata</i> San Luis Obispo monardella	None/None G2/S2 1B.2	Perennial rhizomatous herb. Coastal dunes, coastal scrub. Stabilized sand of the immediate coast. Elevations: 35-655ft. (10-200m.) Blooms May-Sep.	Low Potential	Limited disturbed coastal scrub habitat is present within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the most recent of which is from 2012 and is located approximately 3 miles south of the BSA. Additionally, one record from 1974 is located approximately 0.5 mile southwest of the BSA.
<i>Muhlenbergia utilis</i> aparejo grass	None/None G4/S2S3 2B.2	Perennial rhizomatous herb. Chaparral, cismontane woodland, coastal scrub, marshes and swamps, meadows and seeps. Alkaline (sometimes), Serpentinite (sometimes).Elevations: 80-7630ft. (25-2325m.) Blooms Mar-Oct.	Not Expected	Limited disturbed coastal scrub habitat is present within the BSA. There are no CNDDDB occurrences within a 5-mile radius of the BSA.

Scientific Name Common Name	Status Fed/State ESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Nasturtium gambelii</i> Gambel's water cress	FE/ST G1/S1 1B.1	Perennial rhizomatous herb. Marshes and swamps. Freshwater and brackish marshes at the margins of lakes and along streams, in or just above the water level. Elevations: 15-1085ft. (5-330m.) Blooms Apr-Oct.	Low Potential	No suitable marsh habitat is present within the BSA; however, potentially suitable marsh habitat for this species is located adjacent to Segments 2-1 and 2-2. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1949 and is located within 20 feet of the BSA; however, this population is considered to be extirpated due to heavy development within this portion of the BSA.
<i>Navarretia fossalis</i> spreading navarretia	FT/None G2/S2 1B.1	Annual herb. Chenopod scrub, marshes and swamps, playas, vernal pools. San Diego hardpan and San Diego claypan vernal pools; in swales and vernal pools, often surrounded by other habitat types. Elevations: 100-2150ft. (30-655m.) Blooms Apr-Jun.	Not Expected	No suitable chenopod scrub, marshes and swamps, playas, or vernal pools are present within the BSA. There are no CNDDDB occurrences within the surveyed quadrangles.
<i>Nemaaulis denudata</i> var. <i>denudata</i> coast woolly-heads	None/None G3G4T2/S2 1B.2	Annual herb. Coastal dunes. Elevations: 0-330ft. (0-100m.) Blooms Apr-Sep.	Not Expected	No coastal dunes are present within the BSA. The only CNDDDB occurrence located within the surveyed quadrangles is from 2000 and is located approximately 3.8 miles south of the BSA.
<i>Nemacladus secundiflorus</i> var. <i>robbinsii</i> Robbins' nemacladus	None/None G3T2/S2 1B.2	Annual herb. Chaparral, valley and foothill grassland. Dry, sandy or gravelly slopes. Openings. Elevations: 1150-5580ft. (350-1700m.) Blooms Apr-Jun.	Not Expected	No chaparral or valley and foothill grassland is present within the BSA. There are no CNDDDB occurrences within a 5-mile radius of the BSA.
<i>Scrophularia atrata</i> black-flowered figwort	None/None G2?/S2? 1B.2	Perennial herb. Chaparral, closed-cone coniferous forest, coastal dunes, coastal scrub, riparian scrub. Sand, diatomaceous shales, and soils derived from other parent material; around swales and in sand dunes. Elevations: 35-1640ft. (10-500m.) Blooms Mar-Jul.	Low Potential	Potentially suitable coastal and riparian scrub habitats are present within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2012 and is located approximately 1.9 miles north of the BSA.
<i>Senecio aphanactis</i> chaparral ragwort	None/None G3/S2 2B.2	Annual herb. Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. Elevations: 50-2625ft. (15-800m.) Blooms Jan-Apr(May).	Low Potential	Limited disturbed coastal scrub habitat is present within the BSA. Two CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2015 and is located approximately 4.9 miles northeast.

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<i>Symphotrichum defoliatum</i> San Bernardino aster	None/None G2/S2 1B.2	Perennial rhizomatous herb. Cismontane woodland, coastal scrub, lower montane coniferous forest, marshes and swamps, meadows and seeps, valley and foothill grassland. Vernally mesic grassland or near ditches, streams and springs; disturbed areas. Elevations: 5-6695ft. (2-2040m.) Blooms Jul-Nov.	Low Potential	Limited disturbed coastal scrub habitat is present within the BSA. The only CNDDDB occurrence located within the surveyed quadrangles is from 1993 and is located approximately 1.3 miles southeast of the BSA.

Regional Vicinity refers to within the eight USGS 7.5-minute quadrangles that the BSA crosses.

**Status (Federal/State)**

FE = Federal Endangered  
 FT = Federal Threatened  
 SE = State Endangered  
 ST = State Threatened

**CRPR (CNPS California Rare Plant Rank)**

1A = Presumed extirpated in California, and rare or extinct elsewhere  
 1B = Rare, Threatened, or Endangered in California and elsewhere  
 2A = Presumed extirpated in California, but common elsewhere  
 2B = Rare, Threatened, or Endangered in California, but more common elsewhere  
 3 = Need more information (Review List)  
 4 = Limited Distribution (Watch List)

**CRPR Threat Code Extension**

.1 = Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)  
 .2 = Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)  
 .3 = Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)

**Other Statuses**

G1 or S1 Critically Imperiled Globally or Subnationally (state)  
 G2 or S2 Imperiled Globally or Subnationally (state)  
 G3 or S3 Vulnerable to extirpation or extinction Globally or Subnationally (state)  
 G4/5 or S4/5 Apparently secure, common and abundant  
 GH or SH Possibly Extirpated – missing; known from only historical occurrences but still some hope of rediscovery  
 ? – Inexact numeric rank

**Special Status Wildlife Species in the Regional Vicinity of the Project Site**

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
<b>Invertebrates</b>				
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	FT/None G3/S3	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Not Expected	No vernal pools are present within the BSA. There are no CNDDDB occurrences within a 5-mile radius of the BSA.
<i>Danaus plexippus pop. 1</i> monarch - California overwintering population	FC/None G4G5T1/S1	Roosts in eucalyptus, Monterey pine, and cypress groves along the coast from Mendocino to Baja California, Mexico. Must have water and nectar sources nearby.	Low Potential	Several known monarch overwintering sites are located adjacent to the BSA and multiple CNDDDB occurrences are located within one mile of the BSA. Xerces Site #3066 is located approximately 300 feet southwest of the BSA along Segment 2-10. Xerces Site #3063 is located approximately 700 feet east of the BSA along Segment 2-2. Other known overwintering sites located less than a mile from the BSA include Xerces Sites #2031, #3064, #3065, #3067, and #3082 (CDFW 2022a). This species has a low potential to occur within the BSA as transient individuals traveling between overwintering sites.
<b>Fish</b>				
<i>Eucyclogobius newberryi</i> tidewater goby	FE/None G3/S3	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	Not Expected	No suitable brackish water habitat is present within the BSA. Several CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2008 and is located approximately 0.2 miles south of the BSA, within the Arroyo Grande Creek Lagoon; however, this population is presumed to be extirpated due to frequent groundwater dewatering to support nearby agriculture. An additional CNDDDB occurrence from 2008 is located approximately 2.2 miles northwest of the BSA, within Pismo Creek (CDFW 2022a).

Oceano Community Services District  
**Oceano Community Services District Waterline Improvement Project**

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Gila orcuttii</i> arroyo chub	None/None G2/S2 SSC	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave and San Diego river basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	Not Expected	No suitable stream habitat is present within the BSA. There are no CNDDDB occurrences within a 5-mile radius of the BSA.
<i>Oncorhynchus mykiss irideus pop. 9</i> steelhead - south-central California coast DPS	FT/None G5T2Q/S2	Federal listing refers to runs in coastal basins from the Pajaro River south to, but not including, the Santa Maria River.	Not Expected	No suitable habitat for steelhead is present within the BSA. Federally-designated critical habitat for steelhead is present within Arroyo Grande Creek, approximately 0.1 mile south of the BSA. Several CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2002 and is located approximately 4.5 miles north of the BSA.
<b>Reptiles</b>				
<i>Anniella pulchra</i> Northern California legless lizard	None/None G3/S3 SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	Moderate Potential	Potentially suitable habitat areas with sandy or loose loamy soils under sparse vegetation are present throughout the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, including several located within one mile of the BSA. The closest CNDDDB occurrence is from 1960 and is located approximately 0.1 mile from the BSA.
<i>Emys marmorata</i> western pond turtle	None/None G3G4/S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Low Potential	No suitable aquatic habitat is present within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2007 and is located approximately 1.7 miles northeast of the BSA.
<i>Phrynosoma blainvillii</i> coast horned lizard	None/None G3G4/S3S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Low Potential	Potentially suitable lowland habitats with sandy soils are present within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2006 and is located approximately 4 miles south of the BSA.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Thamnophis hammondi</i> two-striped gartersnake	None/None G4/S3S4 SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Not Expected	No suitable aquatic habitat is present within the BSA. The only two CNDDDB occurrences within the surveyed quadrangles are located over 8 miles south of the BSA.
<b>Amphibians</b>				
<i>Ambystoma californiense</i> <i>pop. 2</i> California tiger salamander - Santa Barbara DPS	FE/ST G2G3T2/S2 WL	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Not Expected	No suitable grassland, savanna, or open woodland habitats are present within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, all of which are located over 12 miles southeast of the BSA.
<i>Rana boylei pop. 6</i> foothill yellow-legged frog - south coast DPS	Proposed Endangered/SE G3TNRQ/S1	Southern Coast Ranges from Monterey Bay south through San Gabriel Mountains; west of the Salinas River in Monterey Co, south through Transverse Ranges, and east through San Gabriel Mountains. Historically may have ranged to Baja California. Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.	Not Expected	No suitable stream habitat is present within the BSA. Two CNDDDB occurrences are located within the surveyed quadrangles, both of which are from over 50 years ago and are located over 5 miles northeast of the BSA. Both populations have been extirpated due to altered water regimes caused by dams.
<i>Rana draytonii</i> California red-legged frog	FT/None G2G3/S2S3 SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Low Potential	Potentially suitable riparian habitat for this species is located adjacent to the BSA along Segments 2-1 and 2-2. Many CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2017 and is located 0.1 mile from the BSA along Creek Road (CDFW 2022a). This species has a low potential to occur within Segments 2-1 and 2-2 as transient individuals if they are migrating between suitable aquatic sites.

Oceano Community Services District  
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Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Spea hammondi</i> western spadefoot	None/None G2G3/S3 SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	Not Expected	No suitable grassland or valley-foothill hardwood woodlands are present within the BSA. There are no CNDDDB occurrences within a 5-mile radius of the BSA.
<i>Taricha torosa</i> Coast Range newt	None/None G4/S4 SSC	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats and will migrate over 1 km to breed in ponds, reservoirs and slow-moving streams.	Not Expected.	No suitable ponds, reservoirs, or streams are present within the BSA. Two CNDDDB occurrences are located within the surveyed quadrangles, both of which are located over 8 miles northeast of the BSA.
<b>Birds</b>				
<i>Accipiter striatus</i> sharp-shinned hawk	None/None G5/S4 WL	Ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers riparian areas. North-facing slopes with plucking perches are critical requirements. Nests usually within 275 ft of water.	Not Expected	Potentially suitable riparian habitat is present within the BSA. The only CNDDDB occurrence within the surveyed quadrangles is from 2003 and is located approximately 5.3 miles southeast of the BSA.
<i>Agelaius tricolor</i> tricolored blackbird	None/ST G1G2/S1S2 SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Not Expected	Potentially suitable aquatic habitat in the form of Oceano Lagoon is present within the BSA. The only CNDDDB occurrence within the surveyed quadrangles is from 1996 and is located approximately 6.2 miles north of the BSA.
<i>Athene cucularia</i> burrowing owl	None/None G4/S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Not Expected	No suitable grasslands, deserts, or scrublands with small mammal burrows are present within the BSA. Several CNDDDB occurrences are located within the surveyed quadrangles, all of which are located over 8 miles from the BSA.
<i>Brachyramphus marmoratus</i> marbled murrelet	FT/SE G2/S2	Marine subtidal and pelagic habitats from the Oregon border south to Point Sal. Prefers coastal coniferous forests for roosting and nesting.	Not Expected	No marine subtidal or pelagic habitats are present within the BSA. No CNDDDB occurrences are located within the surveyed quadrangles.



Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Buteo swainsoni</i> Swainson's hawk	None/ST G5/S3	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Not Expected	Potentially suitable riparian habitats and agricultural lands with groves or lines of trees are present within the BSA. The only CNDDDB occurrence within the surveyed quadrangles is from 1896 and is located approximately 8.5 miles south of the BSA; this population is considered to be extirpated.
<i>Charadrius nivosus nivosus</i> western snowy plover	FT/None G3T3/S2 SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	Not Expected	No suitable sandy beach habitat is located within the BSA. Federally-designated critical habitat for western snowy plover is located approximately 80 feet southwest of the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is located approximately 0.4 miles south of the BSA.
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	FT/SE G5T2T3/S1	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	Not Expected	Potentially suitable riparian habitat is located adjacent to the BSA. The only CNDDDB occurrence within the surveyed quadrangles is from 1932 and is located approximately 7 miles northwest of the BSA; this population is considered to be extirpated.
<i>Elanus leucurus</i> white-tailed kite	None/None G5/S3S4 FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Not Expected	No suitable grassland, meadow, or marsh habitats next to deciduous woodlands are present within the BSA. The only CNDDDB occurrence within the surveyed quadrangles is from 2017 and is located approximately 9.5 miles north of the BSA.
<i>Empidonax traillii extimus</i> southwestern willow flycatcher	FE/SE G5T2/S1	Riparian habitats, specifically wet meadows and montane riparian habitats in the Sierra Nevada and Cascade Range. Known breeding locations include the Santa Ynez and Santa Clara rivers.	Not Expected	Potentially suitable riparian habitat is located adjacent to the BSA; however, the BSA is located outside of the known breeding range of this species. No CNDDDB occurrences are located within the surveyed quadrangles.
<i>Falco mexicanus</i> prairie falcon	None/None G5/S4 WL	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	Not Expected	Potentially suitable open habitat in the form of agricultural lands are present within the BSA. Two CNDDDB occurrences from over 40 years ago are located within the surveyed quadrangles. Both occurrences are documented from the Tar Spring Ridge quadrangle; no other location information is provided.

Oceano Community Services District  
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Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Falco peregrinus anatum</i> American peregrine falcon	FD/SD G4T4/S3S4 FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Not Expected	Potentially suitable aquatic habitat and human-made structures are present within the BSA. The only CNDDDB occurrence within the surveyed quadrangles is from 2013 and is located within the Point Sal quadrangle; no other location information is given.
<i>Gymnogyps californianus</i> California condor	FE/SE G1/S1 FP	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	Not Expected	No suitable open savannah, grasslands, or foothill chaparral habitat are present within the BSA. The only CNDDDB occurrence within the surveyed quadrangles is from 1975 and is located approximately 13 miles northeast of the BSA.
<i>Laterallus jamaicensis coturniculus</i> California black rail	None/ST G3T1/S1 FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Not Expected	Potentially suitable marsh habitat is present within the BSA. Two CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1966 and is located approximately 1.9 miles south of the BSA.
<i>Rallus longirostris obsoletus</i> California clapper rail	FE/SE G5T1/S1 FP	Tidal and brackish marshes from Marin to San Luis Obispo county. Only known breeding population occurs in San Francisco Bay Estuary.	Not Expected	Potentially suitable marsh habitat is located adjacent to the BSA. No CNDDDB occurrences are located within the surveyed quadrangles.
<i>Sternula antillarum browni</i> California least tern	FE/SE G4T2T3Q/S2 FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, land fills, or paved areas.	Not Expected	Potentially suitable habitat in the form of sparsely-vegetated flat areas, including paved areas, are present within the BSA; however, most of these areas are located within the public ROW and are subject to frequent disturbance, making them unsuitable nesting habitat for this species. Several CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 2016 and is located approximately 3.4 miles south of the BSA.
<i>Vireo bellii pusillus</i> Least Bell's vireo	FE/SE G5T2/S2	Prefers dense valley foothill riparian habitat.	Not Expected	No suitable dense valley foothill riparian habitat is present within the BSA. No CNDDDB occurrences are located within the surveyed quadrangles.

Scientific Name Common Name	Status Fed/State ESA CDFW	Habitat Requirements	Potential to Occur	Rationale
<b>Mammals</b>				
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	None/None G4/S2 SSC	Occurs throughout California in a wide variety of habitats. Most common in mesic sites, typically coniferous or deciduous forests. Roosts in the open, hanging from walls and ceilings in caves, lava tubes, bridges, and buildings. This species is extremely sensitive to human disturbance.	Low Potential	Potentially suitable roosting habitat in the form of bridges and buildings are present within the BSA. The only CNDDDB occurrence of this species within the surveyed quadrangles is located approximately 4.1 miles northeast of the BSA.
<i>Dipodomys ingens</i> Giant kangaroo rat	FE/SE G1G2/S1S2	Found in annual grasslands on the western side of the San Joaquin Valley. Occasionally occurs in alkali scrub. Prefers areas with sparse cover, can be found in areas of cattle grazing. Requires level or slightly sloping terrain and friable soils for burrowing.	Not Expected	No suitable grassland or alkali scrub habitats are present within the BSA. No CNDDDB occurrences are located within the surveyed quadrangles.
<i>Taxidea taxus</i> American badger	None/None G5/S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Low Potential	Potentially suitable shrub and herbaceous habitats are present within the BSA. Multiple CNDDDB occurrences are located within the surveyed quadrangles, the closest of which is from 1991 and is located approximately 2.1 miles northeast of the BSA.

Regional Vicinity refers to within a 9-quad search radius of site.

**Status (Federal/State)**

- FE = Federal Endangered
- FT = Federal Threatened
- FPE = Federal Proposed Endangered
- FPT = Federal Proposed Threatened
- FD = Federal Delisted
- FC = Federal Candidate
- SE = State Endangered
- ST = State Threatened
- SCE = State Candidate Endangered
- SCT = State Candidate Threatened
- SR = State Rare
- SD = State Delisted
- SSC = CDFW Species of Special Concern
- FP = CDFW Fully Protected
- WL = CDFW Watch List

**CRPR (CNPS California Rare Plant Rank)**

- 1A = Presumed extirpated in California, and rare or extinct elsewhere
- 1B = Rare, Threatened, or Endangered in California and elsewhere
- 2A = Presumed extirpated in California, but common elsewhere
- 2B = Rare, Threatened, or Endangered in California, but more common elsewhere

**CRPR Threat Code Extension**

- .1 = Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)
- .2 = Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)
- .3 = Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)

Oceano Community Services District  
**Oceano Community Services District Waterline Improvement Project**

Scientific Name	Status		Potential to	
Common Name	Fed/State ESA	Habitat Requirements	Occur	Rationale
<b>Other Statuses</b>				
G1 or S1	Critically Imperiled Globally or Subnationally (state)			
G2 or S2	Imperiled Globally or Subnationally (state)			
G3 or S3	Vulnerable to extirpation or extinction Globally or Subnationally (state)			
G4/5 or S4/5	Apparently secure, common and abundant			
GH or SH	Possibly Extirpated – missing; known from only historical occurrences but still some hope of rediscovery			
<b>Additional notations may be provided as follows</b>				
T –	Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)			
Q –	Questionable taxonomy that may reduce conservation priority			
? –	Inexact numeric rank			

# Appendix C

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Site Photographs



**Photograph 1.** View of ice plant mat adjacent to Segment 1-5, with silver dune lupine – mock heather scrub in the background. View facing east. November 17, 2022.



**Photograph 2.** View of landscaped and arroyo willow thicket vegetation communities on either side of Segment 2-1. View facing west. November 17, 2022.

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**Photograph 3.** View of residential neighborhood at southern end of Segment 2-2. View facing northeast. November 17, 2022.



**Photograph 4.** View of residential neighborhood along Segment 1-7. View facing north. November 17, 2022.



**Photograph 5.** View of developed area along Segment 2-3. View facing east. November 17, 2022.



**Photograph 6.** View of silver dune lupine – mock heather scrub adjacent to Segment 3-4. View facing southeast. November 17, 2022.





**Photograph 7.** View of developed area within residential neighborhood along Segment 2-5. View facing north. November 17, 2022.



**Photograph 8.** View of arroyo willow thicket adjacent to residential properties along Segment 2-2. View facing northwest. November 17, 2022.



**Photograph 9.** View of developed area within residential neighborhood along Segment 3-1. View facing north. November 17, 2022.



**Photograph 10.** View of landscaped area along Segment 2-10, within a residential neighborhood in Halcyon. View facing east. November 17, 2022.

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# Appendix D

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Floral and Faunal Compendium

### Plant Species Observed Within the Biological Study Area on November 17, 2022

Scientific Name <sup>1</sup>	Common Name	Status	Native or Introduced <sup>2</sup>
<b>Trees</b>			
<i>Hesperocyparis macrocarpa</i>	Monterey cypress	1B.2	Native
<i>Jacaranda mimosifolia</i>	black poui	–	Non-native
<i>Olea europaea</i>	olive	–	Non-native; Cal-IPC limited
<i>Platanus racemosa</i>	western sycamore	–	Native
<i>Quercus agrifolia</i>	coast live oak	–	Native
<i>Salix lasiolepis</i>	arroyo willow	–	Native
<i>Syzygium paniculatum</i>	brush cherry	–	Non-native
<b>Shrubs</b>			
<i>Baccharis pilularis</i>	coyote brush	–	Native
<i>Crassula ovata</i>	jade plant	–	Non-native
<i>Ericameria ericoides</i>	mock heather	–	Native
<i>Hedera helix</i>	English ivy	–	Non-native; Cal-IPC high
<i>Lupinus chamissonis</i>	silver dune lupine	–	Native
<i>Malva arborea</i>	tree mallow	–	Non-native
<i>Rhus ovata</i>	sugar bush	–	Native
<i>Rosmarinus officinalis</i>	rosemary	–	Non-native
<i>Rubus ursinus</i>	California blackberry	–	Native
<i>Toxicodendron diversilobum</i>	poison oak	–	Native
<b>Herbs</b>			
<i>Abronia umbellata</i>	beach sand verbena	–	Native
<i>Acmispon glaber</i>	deerweed	–	Native
<i>Ambrosia psilostachya</i>	ragweed	–	Native
<i>Brassica nigra</i>	black mustard	–	Non-native; Cal-IPC moderate
<i>Camissoniopsis cheiranthifolia</i>	beach evening primrose	–	Native
<i>Capsella bursa-pastoris</i>	shepherd's purse	–	Non-native
<i>Carpobrotus edulis</i>	ice plant	–	Non-native; Cal-IPC high
<i>Croton californica</i>	California croton	–	Native
<i>Cyperus eragrostis</i>	Tall cyperus	–	Native
<i>Dimorphotheca sinuate</i>	African daisy	–	Non-native
<i>Erigeron canadensis</i>	Canada horseweed	–	Native
<i>Erodium cicutarium</i>	red stemmed filaree	–	Non-native; Cal-IPC limited
<i>Eschscholzia californica</i>	California poppy	–	Native
<i>Hirschfeldia incana</i>	short podded mustard	–	Non-native; Cal-IPC moderate
<i>Heterotheca grandiflora</i>	telegraphweed	–	Native
<i>Lactuca serriola</i>	prickly lettuce	–	Non-native
<i>Lobularia maritima</i>	sweet alyssum	–	Non-native; Cal-IPC limited
<i>Malva parviflora</i>	cheeseweed mallow	–	Non-native
<i>Marah fabacea</i>	California man-root	–	Native

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Scientific Name <sup>1</sup>	Common Name	Status	Native or Introduced <sup>2</sup>
<i>Oxalis pes-caprae</i>	sourgrass	–	Non-native; Cal-IPC moderate
<i>Plantago lanceolata</i>	English plantain	–	Non-native; Cal-IPC limited
<i>Polygonum aviculare</i>	prostrate knotweed	–	Non-native
<i>Pseudognaphalium luteoalbum</i>	Jersey cudweed	–	Non-native
<i>Pteridium aquilinum</i>	western brackenfern	–	Native
<i>Salsola tragus</i>	Russian thistle	–	Non-native; Cal-IPC limited
<i>Symphotrichium chilense</i>	California aster	–	Native
<i>Urtica dioica</i>	stinging nettle	–	Native
<b>Grasses</b>			
<i>Arundo donax</i>	giant reed	–	Non-native; Cal-IPC high
<i>Bromus diandrus</i>	ripgut brome	–	Non-native; Cal-IPC moderate
<i>Cynodon dactylon</i>	Bermuda grass	–	Non-native; Cal-IPC moderate
<i>Ehrharta calycina</i>	veldt grass	–	Non-native; Cal-IPC high
<i>Juncus acutus</i>	spiny rush	–	Native

<sup>1</sup> Calflora 2022

<sup>2</sup> California Invasive Plant Council 2022

**Wildlife Species Observed Within the Biological Study Area on November 17, 2022**

Scientific Name	Common Name	Status	Native or Introduced
<b>Insects</b>			
<i>Danaus plexippus</i>	monarch	FC	Native
<b>Birds<sup>1</sup></b>			
<i>Aphelocoma californica</i>	California scrub jay	–	Native
<i>Baeolophus inornatus</i>	oak titmouse	–	Native
<i>Calypte anna</i>	Anna’s hummingbird	–	Native
<i>Cathartes aura</i>	turkey vulture	–	Native
<i>Charadrius vociferus</i>	killdeer	–	Native
<i>Corthylio calendula</i>	ruby-crowned kinglet	–	Native
<i>Corvus brachyrhynchos</i>	American crow	–	Native
<i>Haemorhous mexicanus</i>	house finch	–	Native
<i>Junco hyemalis</i>	dark-eyed junco	–	Native
<i>Larus occidentalis</i>	western gull	–	Native
<i>Melanerpes formicivorus</i>	acorn woodpecker	–	Native
<i>Melospiza melodia</i>	song sparrow	–	Native
<i>Poecile rufescens</i>	chestnut-backed chickadee	–	Native
<i>Porzana carolina</i>	sora	–	Native
<i>Sayornis nigricans</i>	black phoebe	–	Native
<i>Setophaga coronata</i>	yellow-rumped warbler	–	Native
<i>Setophaga townsendi</i>	Townsend’s warbler	–	Native
<i>Sialia mexicana</i>	western bluebird	–	Native

<sup>1</sup> Cornell University 2022

# Appendix C

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Energy Calculations

# Waterline Improvement Project

Last Updated: 10/28/22

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors [1]:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529
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*Values above are expressed in gallons per horsepower-hour/BSFC.*

CONSTRUCTION EQUIPMENT						
Construction Equipment	#	Hours per		Load Factor	Construction Phase	Fuel Used (gallons)
		Day	Horsepower			
Air Compressors	1	8	78	0.48	Demo/Site Prep - Pier	264
Cement and Mortar Mixers	1	8	9	0.56	Demo/Site Prep - Pier	36
Generator Sets	1	8	84	0.74	Demo/Site Prep - Pier	438
Off-Highway Trucks	1	2	402	0.38	Demo/Site Prep - Pier	242
Rubber Tired Loaders	1	8	203	0.36	Demo/Site Prep - Pier	464
Signal Boards	1	8	6	0.82	Demo/Site Prep - Pier	35
Tractors/Loaders/Backhoes	1	8	97	0.37	Demo/Site Prep - Pier	253
Air Compressors	1	8	78	0.48	Pipe Install (trenchless) - Pier	88
Bore/Drill Rigs	1	8	221	0.5	Pipe Install (trenchless) - Pier	234
Generator Sets	1	8	84	0.74	Pipe Install (trenchless) - Pier	146
Off-Highway Trucks	1	2	402	0.38	Pipe Install (trenchless) - Pier	81
Plate Compactors	1	8	8	0.43	Pipe Install (trenchless) - Pier	8
Rollers	1	8	80	0.38	Pipe Install (trenchless) - Pier	71
Signal Boards	1	8	6	0.82	Pipe Install (trenchless) - Pier	12
Tractors/Loaders/Backhoes	1	7	97	0.37	Pipe Install (trenchless) - Pier	74
Welders	1	8	46	0.45	Pipe Install (trenchless) - Pier	49
Air Compressors	1	8	78	0.48	Pipe Install (Trench) - Pier	528
Generator Sets	1	8	84	0.74	Pipe Install (Trench) - Pier	877
Off-Highway Trucks	1	2	402	0.38	Pipe Install (Trench) - Pier	484
Plate Compactors	1	8	8	0.43	Pipe Install (Trench) - Pier	49
Rough Terrain Forklifts	1	8	100	0.4	Pipe Install (Trench) - Pier	564
Rubber Tired Loaders	1	8	203	0.36	Pipe Install (Trench) - Pier	927
Signal Boards	1	8	6	0.82	Pipe Install (Trench) - Pier	69
Tractors/Loaders/Backhoes	1	7	97	0.37	Pipe Install (Trench) - Pier	443
Trenchers	1	8	78	0.5	Pipe Install (Trench) - Pier	550
Air Compressors	1	8	78	0.48	Paving/Restoration -Pier	176
Cement and Mortar Mixers	1	6	9	0.56	Paving/Restoration -Pier	18
Concrete/Industrial Saws	1	8	81	0.73	Paving/Restoration -Pier	278
Generator Sets	1	8	84	0.74	Paving/Restoration -Pier	292
Off-Highway Trucks	1	2	402	0.38	Paving/Restoration -Pier	161
Pavers	1	6	130	0.42	Paving/Restoration -Pier	173
Paving Equipment	1	8	132	0.36	Paving/Restoration -Pier	201
Plate Compactors	1	8	8	0.43	Paving/Restoration -Pier	16
Signal Boards	1	6	6	0.82	Paving/Restoration -Pier	17
Surfacing Equipment	1	8	263	0.3	Paving/Restoration -Pier	334
Tractors/Loaders/Backhoes	1	8	97	0.37	Paving/Restoration -Pier	169
Air Compressors	1	8	78	0.48	Demo/Site Prep - Central	264
Cement and Mortar Mixers	1	8	9	0.56	Demo/Site Prep - Central	36
Generator Sets	1	8	84	0.74	Demo/Site Prep - Central	438
Off-Highway Trucks	1	2	402	0.38	Demo/Site Prep - Central	242
Rubber Tired Loaders	1	8	203	0.36	Demo/Site Prep - Central	464
Signal Boards	1	8	6	0.82	Demo/Site Prep - Central	35
Tractors/Loaders/Backhoes	1	8	97	0.37	Demo/Site Prep - Central	253
Air Compressors	1	8	78	0.48	Pipe/Inst(trenchless) - Central	88
Bore/Drill Rigs	1	8	221	0.5	Pipe/Inst(trenchless) - Central	234
Generator Sets	1	8	84	0.74	Pipe/Inst(trenchless) - Central	146
Off-Highway Trucks	1	2	402	0.38	Pipe/Inst(trenchless) - Central	81
Plate Compactors	1	8	8	0.43	Pipe/Inst(trenchless) - Central	8
Rollers	1	8	80	0.38	Pipe/Inst(trenchless) - Central	71



Signal Boards	1	8	6	0.82	Pipe/Inst(trenchless) - Central	12
Tractors/Loaders/Backhoes	1	7	97	0.37	Pipe/Inst(trenchless) - Central	74
Welders	1	8	46	0.45	Pipe/Inst(trenchless) - Central	49
Air Compressors	1	8	78	0.48	Pipe Install (Trench) - Central	528
Generator Sets	1	8	84	0.74	Pipe Install (Trench) - Central	877
Off-Highway Trucks	1	2	402	0.38	Pipe Install (Trench) - Central	484
Plate Compactors	1	8	8	0.43	Pipe Install (Trench) - Central	49
Rough Terrain Forklifts	1	8	100	0.4	Pipe Install (Trench) - Central	564
Rubber Tired Loaders	1	8	203	0.36	Pipe Install (Trench) - Central	927
Signal Boards	1	8	6	0.82	Pipe Install (Trench) - Central	69
Tractors/Loaders/Backhoes	1	7	97	0.37	Pipe Install (Trench) - Central	443
Trenchers	1	8	78	0.5	Pipe Install (Trench) - Central	550
Air Compressors	1	8	78	0.48	Paving/Restoration -Central	176
Cement and Mortar Mixers	1	6	9	0.56	Paving/Restoration -Central	18
Concrete/Industrial Saws	1	8	81	0.73	Paving/Restoration -Central	278
Generator Sets	1	8	84	0.74	Paving/Restoration -Central	292
Off-Highway Trucks	1	2	402	0.38	Paving/Restoration -Central	161
Pavers	1	6	130	0.42	Paving/Restoration -Central	173
Paving Equipment	1	8	132	0.36	Paving/Restoration -Central	201
Plate Compactors	1	8	8	0.43	Paving/Restoration -Central	16
Signal Boards	1	6	6	0.82	Paving/Restoration -Central	17
Surfacing Equipment	1	8	263	0.3	Paving/Restoration -Central	334
Tractors/Loaders/Backhoes	1	8	97	0.37	Paving/Restoration -Central	169
Air Compressors	1	8	78	0.48	Demo/Site Prep - Strand	264
Cement and Mortar Mixers	1	8	9	0.56	Demo/Site Prep - Strand	36
Generator Sets	1	8	84	0.74	Demo/Site Prep - Strand	438
Off-Highway Trucks	1	2	402	0.38	Demo/Site Prep - Strand	242
Rubber Tired Loaders	1	8	203	0.36	Demo/Site Prep - Strand	464
Signal Boards	1	8	6	0.82	Demo/Site Prep - Strand	35
Tractors/Loaders/Backhoes	1	8	97	0.37	Demo/Site Prep - Strand	253
Air Compressors	1	8	78	0.48	Pipe Install (Trench) - Strand	528
Generator Sets	1	8	84	0.74	Pipe Install (Trench) - Strand	877
Off-Highway Trucks	1	2	402	0.38	Pipe Install (Trench) - Strand	484
Plate Compactors	1	8	8	0.43	Pipe Install (Trench) - Strand	49
Rough Terrain Forklifts	1	8	100	0.4	Pipe Install (Trench) - Strand	564
Rubber Tired Loaders	1	8	203	0.36	Pipe Install (Trench) - Strand	927
Signal Boards	1	8	6	0.82	Pipe Install (Trench) - Strand	69
Tractors/Loaders/Backhoes	1	7	97	0.37	Pipe Install (Trench) - Strand	443
Trenchers	1	8	78	0.5	Pipe Install (Trench) - Strand	550
Air Compressors	1	8	78	0.48	Paving/Restoration -Strand	176
Cement and Mortar Mixers	1	6	9	0.56	Paving/Restoration -Strand	18
Concrete/Industrial Saws	1	8	81	0.73	Paving/Restoration -Strand	278
Generator Sets	1	8	84	0.74	Paving/Restoration -Strand	292
Off-Highway Trucks	1	2	402	0.38	Paving/Restoration -Strand	161
Pavers	1	6	130	0.42	Paving/Restoration -Strand	173
Paving Equipment	1	8	132	0.36	Paving/Restoration -Strand	201
Plate Compactors	1	8	8	0.43	Paving/Restoration -Strand	16
Signal Boards	1	6	6	0.82	Paving/Restoration -Strand	17
Surfacing Equipment	1	8	263	0.3	Paving/Restoration -Strand	334
Tractors/Loaders/Backhoes	1	8	97	0.37	Paving/Restoration -Strand	169
Air Compressors	1	8	78	0.48	Demo/Site Prep - East	264
Cement and Mortar Mixers	1	8	9	0.56	Demo/Site Prep - East	36
Generator Sets	1	8	84	0.74	Demo/Site Prep - East	438
Off-Highway Trucks	1	2	402	0.38	Demo/Site Prep - East	242
Rubber Tired Loaders	1	8	203	0.36	Demo/Site Prep - East	464
Signal Boards	1	8	6	0.82	Demo/Site Prep - East	35
Tractors/Loaders/Backhoes	1	8	97	0.37	Demo/Site Prep - East	253
Air Compressors	1	8	78	0.48	Pipe Install (Trench) - East	528
Generator Sets	1	8	84	0.74	Pipe Install (Trench) - East	877
Off-Highway Trucks	1	2	402	0.38	Pipe Install (Trench) - East	484
Plate Compactors	1	8	8	0.43	Pipe Install (Trench) - East	49
Rough Terrain Forklifts	1	8	100	0.4	Pipe Install (Trench) - East	564
Rubber Tired Loaders	1	8	203	0.36	Pipe Install (Trench) - East	927

Signal Boards	1	8	6	0.82	Pipe Install (Trench) - East	69
Tractors/Loaders/Backhoes	1	7	97	0.37	Pipe Install (Trench) - East	443
Trenchers	1	8	78	0.5	Pipe Install (Trench) - East	550
Air Compressors	1	8	78	0.48	Paving/Restoration -East	176
Cement and Mortar Mixers	1	6	9	0.56	Paving/Restoration -East	18
Concrete/Industrial Saws	1	8	81	0.73	Paving/Restoration -East	278
Generator Sets	1	8	84	0.74	Paving/Restoration -East	292
Off-Highway Trucks	1	2	402	0.38	Paving/Restoration -East	161
Pavers	1	6	130	0.42	Paving/Restoration -East	173
Paving Equipment	1	8	132	0.36	Paving/Restoration -East	201
Plate Compactors	1	8	8	0.43	Paving/Restoration -East	16
Signal Boards	1	6	6	0.82	Paving/Restoration -East	17
Surfacing Equipment	1	8	263	0.3	Paving/Restoration -East	334
Tractors/Loaders/Backhoes	1	8	97	0.37	Paving/Restoration -East	169

**Total Fuel Used** **33,757**  
**(Gallons)**

Construction Phase	Days of Operation
Demo/SP - Pier	15
Pipe Install (Trenchless) - Pier	5
Pipe Install (Trench) - Pier	30
Paving/Restoration - Pier	10
Demo/SP - Central	15
Pipe/Instal(Trenchless) - Central	5
Pipe Install (Trench) - Central	30
Paving/Restoration - Central	10
Demo/SP - Strand	15
Pipe Install (Trench) - Strand	30
Paving/Restoration - Strand	10
Demo/SP - East	15
Pipe Install (Trench) - East	30
Paving/Restoration - East	10
<b>Total Days</b>	<b>230</b>

#### WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demo/SP - Pier	24.1	18	14.7	164.69
Pipe Install (Trenchless) - Pier	24.1	23	14.7	70.15
Pipe Install (Trench) - Pier	24.1	23	14.7	420.87
Paving/Restoration - Pier	24.1	28	14.7	170.79
Demo/SP - Central	24.1	18	14.7	164.69
Pipe/Instal(Trenchless) - Central	24.1	23	14.7	70.15
Pipe Install (Trench) - Central	24.1	23	14.7	420.87
Paving/Restoration - Central	24.1	28	14.7	170.79
Demo/SP - Strand	24.1	18	14.7	164.69
Pipe Install (Trench) - Strand	24.1	23	14.7	420.87
Paving/Restoration - Strand	24.1	28	14.7	170.79
Demo/SP - East	24.1	18	14.7	164.69
Pipe Install (Trench) - East	24.1	23	14.7	420.87
Paving/Restoration - East	24.1	28	14.7	170.79
<b>Total</b>				<b>3,165.68</b>

#### HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
<b>HAULING TRIPS</b>				
Pipeline Install (Trench) - Pier	7.5	234	20.0	624.00

Pipeline Install (Trench) - Central	7.5	154	20.0	410.67
Pipeline Install (Trench) - Strand	7.5	93	20.0	248.00
Pipeline Install (Trench) - East	7.5	194	20.0	517.33

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			<b>Total</b>	<b>1,800.00</b>
			<b>VENDOR TRIPS</b>	
	7.5	0	14.7	0.00

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7.5	0	14.7	0.00
7.5	0	14.7	0.00
7.5	0	14.7	0.00
7.5	0	14.7	0.00
7.5	0	14.7	0.00

**Total** -

<b>Total Gasoline Consumption (gallons)</b>	<b>3,166</b>
<b>Total Diesel Consumption (gallons)</b>	<b>35,557</b>

**Sources:**

[1] United States Environmental Protection Agency. 2021. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2*. September. Available at: <https://www.epa.gov/system/files/documents/2021-08/420r21021.pdf>.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2021. *National Transportation Statistics*. Available at: <https://www.bts.gov/topics/national-transportation-statistics>.