Draft Initial Study and Notice of Intent to Adopt a Mitigated Negative Declaration

for the

City of Colfax Sewer Collection System and Wastewater Treatment Plant Improvements Project

Prepared for:

City of Colfax

Prepared by:

Adrienne Graham, AICP
and Associates

August 2020

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August 2020

NOTICE OF INTENT
TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR THE

City of Colfax
Sewer Collection System and Wastewater Treatment Plant Improvements Project

To: Interested Persons

From: City of Colfax
PO Box 702
Colfax, CA 95713

Subject: Notice of Intent to Adopt a Mitigated Negative Declaration

Public Review Period: August 12 through September 11, 2020

The City of Colfax is the Lead Agency pursuant to the California Environmental Quality Act (CEQA) for the proposed Sewer Collection System and Wastewater Treatment Plant Improvements Project (Proposed Project). The Proposed Project is composed of three elements---upgrades to portions of the City's sewer system, an algae removal system, and installation of a solar array at the City's wastewater treatment plan (WWTP). The City has tentatively determined that the Proposed Project will not result in a significant adverse impact on the environment. Therefore, in accordance with CEQA, the City is prepared to adopt a Mitigated Negative Declaration.

The City of Colfax is located in Placer County, approximately 50 miles northeast of Sacramento. The City lies within the Sierra Nevada foothills at an elevation of approximately 2,400 feet mean sea level (msl). Interstate 80 (I-80) transects the city. The sewer system extends from the WWTP to connections located throughout the City. The sewer lines are primarily located within or adjacent to City streets, but in some cases the lines cross parcels and/or travel through open land. The solar facility and algae removal system would be located at the WWTP. The WWTP is located on 72.5 acres approximately 0.5 miles southeast of the City.

The proposed IS/MND is available for public review from 8am to 5pm, Monday through Thursday, at the offices of the City of Colfax Public Works Department (address listed above) and online at the City's website at:

http://colfax-ca.gov/

The public comment period on the IS/MND closes on at 5pm on September 11, 2020. Comments may be submitted to the City of Colfax at the above address. Emailed comments should be submitted to "city.clerk@colfax-ca.gov" and should include the phrase "Colfax Sewer Collection and WWTP Improvements Project DIS/MND" in the subject line.

TABLE OF CONTENTS

Table of Contents

1. BACKGROUND AND INTRODUCTION

Project Title:	Sewer Collection System and Wastewater Treatment Plant Improvements Project
Project Location:	Colfax, California
Lead Agency Name and Address:	City of Colfax PO Box 702 Colfax, CA 95713
Contact Person and Phone Number:	Wes Heathcock, City Manager 530-346-2313
General Plan Designation:	Multiple
Zoning:	Multiple

INTRODUCTION

This Initial Study was prepared in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Sections 15000 *et seq*.) to evaluate the environmental effects of the Colfax Sewer Collection System and Wastewater Treatment Plant Improvements Project (Proposed Project). The Proposed Project is composed of three elements---upgrades to portions of the City's sewer system, an algae removal system, and installation of a solar array at the City's wastewater treatment plant (WWTP). The Proposed Project is described in more detail in Chapter 2, Project Description.

Because the City intends to apply for funding through the California Clean Water State Revolving Fund (CWSRF) Program, partially funded by the U.S. Environmental Protection Agency (USEPA), this Initial Study has been prepared to address certain federal environmental regulations, including regulations guiding the General Conformity Rule for the Clean Air Act (CAA), the federal Endangered Species Act (FESA), and the National Historic Preservation Act (NHPA). USEPA has allowed a modified CEQA document, called CEQA-Plus, to be the compliance basis for projects applying for CWSRF monies. CEQA-Plus requirements are addressed in Items 4, Air Quality, 5, Biological Resources, and 6, Cultural Resources of this Initial Study, respectively.

2. PROJECT DESCRIPTION

INTRODUCTION

The City of Colfax provides sewer and wastewater treatment services within the City and to some residents living outside of the City limits. The City facilities include a wastewater treatment plant (WWTP), 12 miles of sewer collection system and four sewer pump stations. The WWTP provides tertiary treatment meeting Title 22 effluent requirements.

The City is pursuing planning and construction grant funding to fund several infrastructure improvements. The funds would be used to (1) construct a solar facility to offset energy consumption costs at the WWTP, (2) install a new aeration flotation system that would reduce algae contamination at the WWTP, and (3) upgrade up to 4 miles of existing sewer pipelines, manholes and services.

Because the grant funding will come from the US Environmental Protection Agency (EPA), the improvement projects is subject to both CEQA and NEPA. The City is serving as lead agency for CEQA. The State Water Resources Control Board (Water Board) will serve as a responsible agency under CEQA and lead the NEPA review.

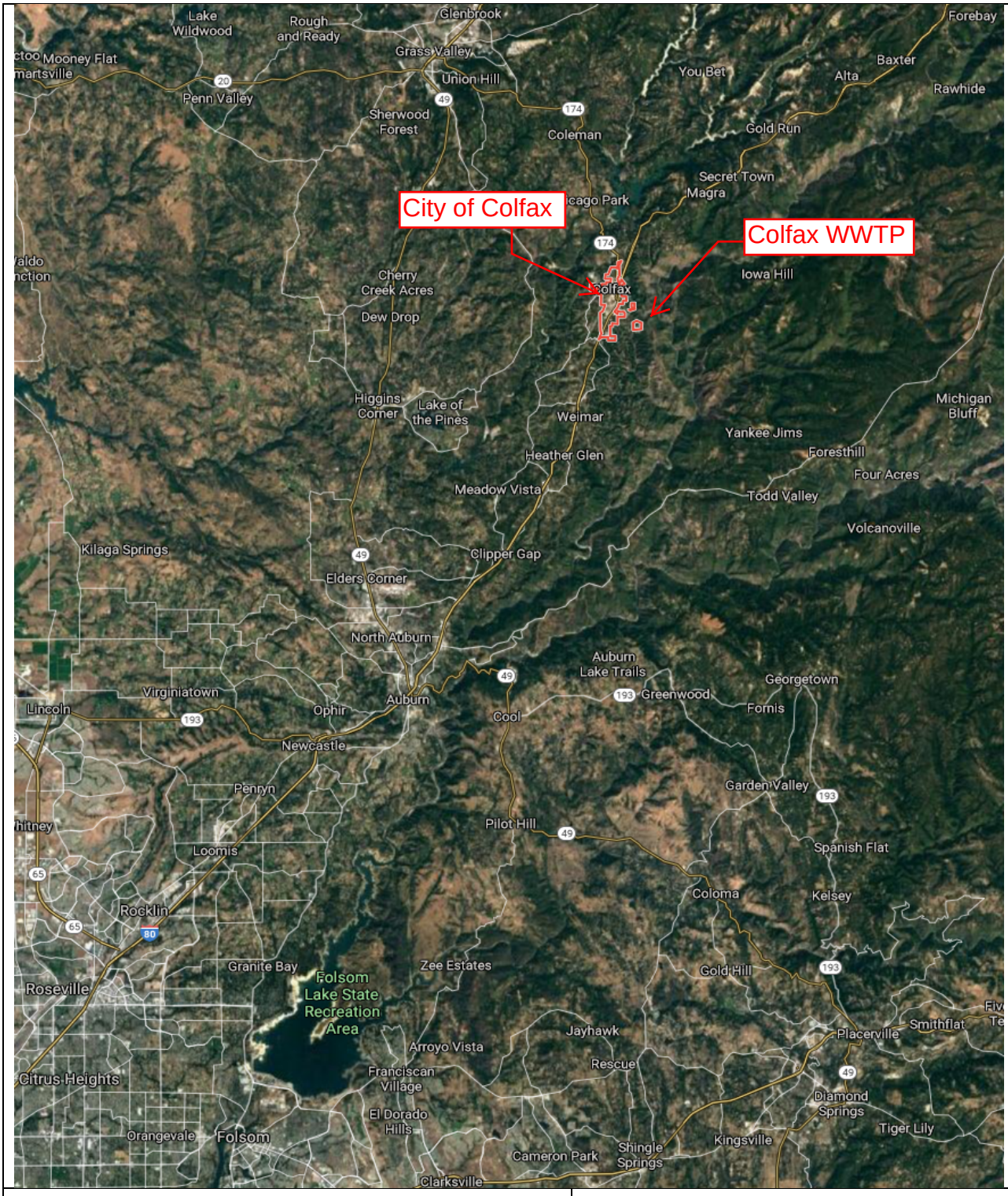
PROJECT LOCATION

The City of Colfax is located in Placer County, approximately 50 miles northeast of Sacramento (see Figure 2-1). The City lies within the Sierra Nevada foothills at an elevation of approximately 2,400 feet mean sea level (msl). Interstate 80 (I-80) transects the city. The sewer system extends from the WWTP to connections located throughout the City. The sewer lines are primarily located within or adjacent to City streets, but in some cases the lines cross parcels and/or travel through open land (see Figure 2-2). The sewer lines that are subject to review and replacement are shown in Figure 2-2. The solar facility and algae removal system would be located at the WWTP. The WWTP is located on 72.5 acres approximately 0.5 miles southeast of the City (see Figure 2-2). The Assessor's Parcel Number (APN) for the WWTP site is 101-161-059-000.

EXISTING ENVIRONMENT

The City of Colfax was established in 1849 and incorporated in 1910.[1] The City's development has been tied closely to the railroad established in 1865[2], which transects the City. Residential and non-residential land uses are concentrated along the railroad and Interstate 80, which run parallel to each other. The City's downtown, located west of Interstate 80, is relatively flat. The downtown is typical of communities in the Sierra Nevada foothills, with one- and two-story buildings that house restaurants, offices, retail stores and other commercial uses along Main Street. Many of the buildings appear to date from the 1800s and early to mid-1900s. Newer development, including gas stations and fast-food restaurants, are clustered around the freeway exits. Residential neighborhoods in the core area also include older and newer single-family homes along tree lined streets. Larger commercial uses, such as car sales and automotive repair, are located primarily south of the City core, along South Canyon Way. Farther from the downtown and I-80 corridor, residential development is more rural in nature, often on large lots located along roads that wind through the Sierra Nevada foothills.

1 City of Colfax, *General Plan 2020,* September 22, 1998, page 1-3.
2 City of Colfax, *General Plan 2020,* September 22, 1998, page 1-3.



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Not to Scale Source: Google Maps, 2020

Figure 2-1
Regional Location

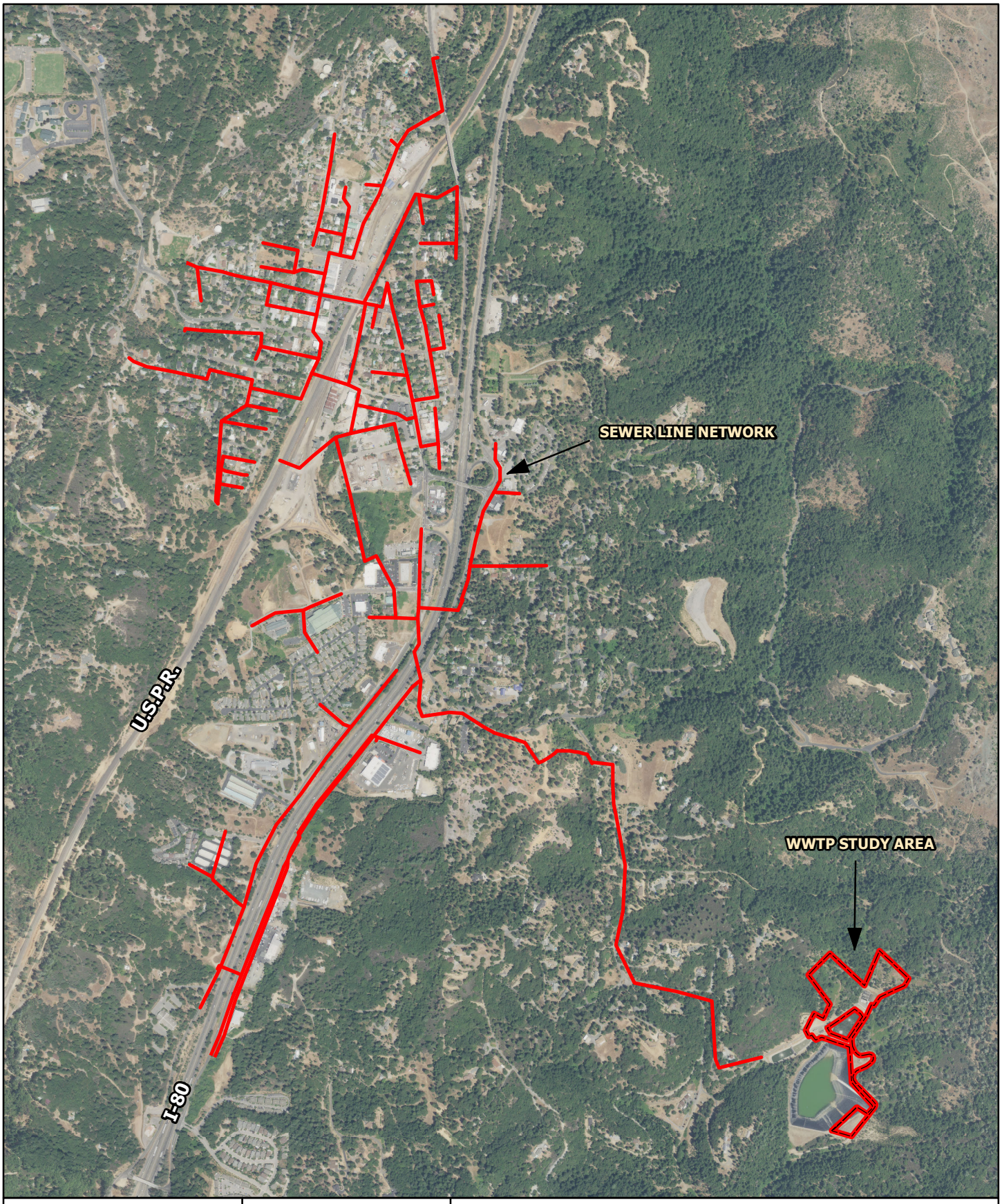

Figure 2-2
Project Location

According to the US Census Bureau, in 2019 the City had a population of 2,002 people and 931 housing units.[3] The City's population is projected to grow to approximately 2,872 in 2030 and 3,677 by 2040.[4]

The solar facility would be located on a 2-acre site at the WWTP. The solar facility would be located within one of two alternative sites identified in Figure 2-3. The ultimate configuration of the solar facility has yet to be determined, so the area included in the environmental surveys and analysis equals approximately 10 acres (combined for the two sites). The two sites are located on slopes ranging from 20 to 40 percent.

The vast majority of the project site is developed. There are portions of the sewer pipeline alignment that occur within Foothill woodland and riparian habitat. There are also several places where the sewer alignment is located adjacent to or crosses small drainages. The majority of the solar facility sites is Foothill woodland habitat.

Currently, electricity is supplied to the WWTP by Pacific Gas & Electric (PG&E). On average, the WWTP uses approximately 765,000 kilowatt hours (kWh) per year.

Existing Sewer and Wastewater Facilities

The City owns and operates the WWTP, the majority of approximately 12 miles of gravity sewer main and four sewer pump stations. These facilities are generally shown in Figure 2-2. Approximately 1 mile of sewer lines are owned by two residential subdivisions. These sewer lines connect to the City's system.

The WWTP is a tertiary treatment plant, originally constructed in1978 with secondary treatment plant and spray fields used to dispose of the treated wastewater. The WWTP was upgraded in 2006 to a tertiary treatment plant. The WWTP has an annual treatment capacity of 0.5 million gallons per day (mgd). It is currently permitted to discharge treated wastewater to a tributary of the Smuthers River, which flows to the North Fork of the American River[5]. The NPDES permit allows for treatment of 0.275 to 0.65 mgd of Average Day Dry Weather Flows (ADWF) depending on overflow holding capacity, and a peak treatment of 0.8 mgd. In 2019, the WWTP treated 91 million gallons, with an ADWF of 0.145 mgd. The Peak Dry Weather Flow (PDWF) approximately 0.22 mgd.[6] Instantaneous Peak Wet Weather Flow from the collection system was observed to be as much as 1.7 mgd.

The sewer system was originally constructed in the early 1900s in and around the downtown area. Until the late 1900s, the system was constructed with vitrified clay pipe but later expansions of the system used PVC pipe. Over three miles of the older gravity system has been replaced with PVC or rehabilitated with cured-in-place epoxy liner. The gravity mains range in size from 6-inch at the upstream ends of the system to 15-inch at the WWTP. The system also includes four pump stations.

The City categorizes its wastewater demand by equivalent dwelling units (EDU) with a single EDU representing a single-family home. There are currently 714 sewer connections with a total

3 https://www.census.gov/search-results.html?q=city+of+colfax%2C+ca&page=1&stateGeo=none&searchtype=web&cssp=SERP&_charset_=UTF- accessed June 18, 2020.

4 Wood Rodgers Inc., *Colfax Project Report Sewer Collection System and Wastewater Treatment Plant Improvements*, March 2020, page 2.

5 National Pollution Discharge Elimination System (NPDES) permit No. CA0079529 and under the Central Valley Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements Order No. R5-2018-0012.

6 Wood Rodgers Inc., *Colfax Project Report Sewer Collection System and Wastewater Treatment Plant Improvements*, March 2020, page 2.

Study Area

Imagery: 01-15-20 Salix Consulting

N

0 100 200

Feet

Figure 2-3
Solar Facility and Algae Control System Location

of 1,205 EDUs. The sources of these EDUs include single-family residential, multi-family residential, commercial, school, church, government and railroad-related uses (there are no industrial users within the City). Several planned developments (a hotel and two residential subdivisions) are anticipated to add approximately 57 EDUs in the near future.[7]

PROJECT CHARACTERISTICS

Purpose and Need

The general intent of the Proposed Project is to improve efficiencies at the WWTP. The solar facility would be sized to supply the WWTP demand for electricity. The sewer line replacement would upgrade existing pipelines that are subject to inflow and infiltration (I&I) of stormwater. This would reduce the amount of wastewater conveyed to the WWTP, thereby increasing available treatment and overflow holding capacity, which is particularly important during flood events. The algae removal system would improve effluent quality and disinfection.

Solar Facility

The solar facility would occupy approximately two acres at one of two sites at the WWTP (see Figure 2-3).

At present, PG&E supplies electricity to the WWTP. The proposed 750 kW direct current (DC) solar facility would produce 1 million kWh per year, which would be enough to fully offset current WWTP demand. Over time, solar facilities' capacity degrades, but even assuming a one percent reduction in capacity over 30 years, the proposed facility would be able to meet WWTP demand. When the facility's production exceeds WWTP demand, the excess electricity would be returned to PG&E's system.

The ultimate design of the solar facility is not known at this time, because the design would be conducted if and when the City is awarded the grant funding. Nonetheless, the fundamental aspects of the solar facility would be similar regardless of the ultimate design. For purposes of this analysis, the following assumptions have been made, based on solar panels currently on the market that are appropriate for the size and type of proposed solar facility. These specifications are used to analyze the environmental effects of the solar facility.

At this time, it is anticipated that the facility would be composed of eight separate photovoltaic (PV) strings oriented to the south. Each string would be composed of 288 to 292 individual panels. Each panel would be approximately 5.5 x 3.3 feet in area, and 1.25 inches thick (1685 millimeters x 1000 mm x 32mm). Each panel would be mounted on a post. The height of the posts and panels combined would not exceed 13 feet. The panels would be fixed tilt and most of the panels would tilt approximately 18 degrees. The frame would be black anodized aluminum or similar material. The front of the panels would be thermally pre-stressed glass with anti-reflection technology or similar materials. Cables would connect the panels to the converter (to convert from direct current to alternating current) and then tie into the control panel. Underground power lines would also connect to the WWTP primary and secondary power control panels operated and maintain by the City and PG&E.

Once completed, the entire solar array would occupy up to two acres.

The solar panels would require periodic maintenance, including cleaning of the panels. It is anticipated that this would be done monthly or quarterly.

7 Wood Rodgers Inc., *Colfax Project Report Sewer Collection System and Wastewater Treatment Plant Improvements*, March 2020, page 4.

Construction

Construction activities for the solar facility would begin with clearing the approximately 2-acre site and grading to achieve the appropriate grade. Trenches for the extension of electrical lines would be dug. Next, concrete pads would be poured for footings. The solar panels and related equipment would then be installed. As stated above, each panel would be mounted on a post. Finally, the panels would be connected to the electrical distribution system. It is anticipated that construction would occur over a six-week period.

The equipment used to construct the solar facility would depend on the specific construction activity. It is anticipated that clearing and grading would be done by heavy equipment, such as a backhoe, loader and an excavator. Bore rigs and a cement mixer would be used when the posts and pads are installed. The solar panels and associated equipment would be transported to the project site by truck and installed using light-weight cranes and truck mount lifting equipment.

Approximately 540 cubic yards of excavated soil would be hauled offsite. No soil or fill materials would be imported. Off-hauling is expected to occur over several days, and require a total of 36 truck trips.

Construction equipment would be located and remain on the WWTP site in a single flat area west of the solar facility site. This area is disturbed, and composed of rock and dirt.

Site preparation and project installation is expected to require four construction workers, who would travel to the WWTP site each day during the construction period.

Sewer Line Improvements

As stated above, there are approximately 12 miles of sewer lines that convey wastewater to the WWTP. At present, stormwater and groundwater infiltrate portions of the sewer system, which increases the amount of wastewater that reaches the WWTP. In addition to requiring additional treatment, the I&I flows, which occur primarily during the rainy season, have contributed to overflows of WWTP ponds. Over the past 20 years, the City has undertaken projects that reduced I&I by approximately 50 percent. The goal of the Proposed Project is to reduce I&I by additional 50 percent, from approximately 8 times ADWF to 4 times ADWF. If achieved, the ADWF would be reduced to 0.6 mgd and the PWWF would be reduced to 1.16 mgd. The annual volume of wastewater treated at the WWTP would be reduced from 91 million gallons to 65 million gallons.

Under the Proposed Project, approximately 4 miles of sewer pipelines would be upgraded. Inspection of the sewer system would be conducted to determine which segments of pipeline are most susceptible to I&I. These segments would be replaced using one or more of the construction techniques described below. All replacement pipelines would be placed in the same location as existing pipelines. The majority of sewer pipelines that would be replaced would be located within City streets, or adjacent to City streets within the City right-of-way. There are several potential segments that would cross private property in developed areas (see Figure 2-2). Three segments that could be replaced are located in areas that are undeveloped (see Figure 2-2).

Construction

There are a number of construction techniques that can be used to replace sewer pipelines. The City anticipates using “cured in place pipe” (CIPP) lining where feasible. With CIPP, a liquid thermoset resin-saturated felt tube material is inserted into the existing pipe through a manhole. The tube is expanded against the wall of the existing pipe by water, air or steam, and cured by hot water or steam. The new pipe is then cooled and drained. The new pipe is

seamless and jointless with a smooth, continuous inner surface. While this method does not require trenching to access the existing pipeline, some excavation would be required to replace connections to existing customers. Typically, the area of disturbance for these connections would be limited to an area three feet wide and averaging approximately 40 feet in length from the sewer main to the property line, or the width of the road right-of-way. The length varies from one side of the road and the other because the sewer main is typically offset from the center of the road. The depth of the excavation is typically six inches to one foot below the depth of the sewer main, which in Colfax can range from four feet to 15 feet.

Where CIPP is not advisable, it is anticipated that the open cut method would be used. In that case, the existing sewer line is excavated and removed, and the new pipeline is placed in the same trench and backfilled. Disturbance is typically limited to the width of the trench, which would typically be four feet or less. The depth of excavation would depend on the elevation of the pipeline being replaced. Typically, pipelines in the City are located at four to 15 feet below ground surface. Therefore, any excavation for the Proposed Project would be at similar depths.

Service to sewer customers would be interrupted temporarily during pipeline replacement. Customers would be notified prior to service interruption, which is anticipated to take less than one day.

Because most of the sewer pipelines are located within existing streets and/or rights-of-way, most of the areas where work would occur have been previously disturbed. Two segments would be located undeveloped areas with substantial tree coverage. Some trees may need to be removed in these areas. A total of approximately 0.6 acres of asphalt paving would be replaced where asphalt needs to be removed to access the pipeline.

Equipment to be used would be the same as most construction projects, and could include backhoes, haul trucks, jack hammers, paving equipment, pumps, and sweepers.

A maximum of eight construction workers would be assigned to the sewer replacement project on a single day during trenching and up to six workers during pipe replacement. Construction is anticipated to take approximately 5 months.

Algae Removal System

During the rainy season, the WWTP water is collected in a holding pond. During warmer weather in the spring, summer and fall, algae blooms occur in the holding pond making it difficult and costly to re-treat the wastewater through the tertiary plant. Algae disrupts the treatment process making it more difficult to meet the Title 22 effluent limitations. The City has developed pretreatment processes with facilities on hand to remove as much of the algae as possible.

The Proposed Project would install Dissolved Air Flotation (DAF) or Suspended Air Flotation (SAF) technology to promote more effective removal of algae in the treatment process and improve treatment effectiveness and efficiency. This would also allow the City to reduce the amount of non-compliant treatment wastewater diversions back to the holding pond, because there would be less disruption of the treatment process by algae, and enable the City to dewater the holding pond in advance of each rainy season, which would ensure maximum available volume to contain overflows that occur during large storm events.

Flotation separation technology uses bubbles to induce suspended particles to rise to the surface of a flotation tank where they can be “skimmed”. DAF technologies typically combine coagulation-flocculation processes with dissolved air to remove suspended matter. Bubbles attach to and cause suspended particles to float to the surface where a sludge layer is formed

and removed periodically. The SAF system uses a surfactant to create bubbles rather than dissolved air. As with the DAF system, sludge forms on the surface of the tank and is periodically skimmed.

Regardless of which system is chosen, the layout of the project would be similar, and the system would have a relatively small footprint. For example, the DAF tank is 8-feet long, 8-feet wide and 9.5-feet high. Figure 2-4 shows a preliminary site plan that could accommodate either a DAF or SAF system. The flotation tank would be located between WWTP Pond 2 and Pond 3. Existing irrigation pumps and the existing force main system would be used to pump water from Pond 3 to the flotation tank. The algae-free discharge would then be conveyed to the existing Chlorine Contact Basin, and then either to Equalization Pond No. 1 or Manhole No. 2, where it would be combined with incoming raw sewage and treated through the regular WWTP process. Solids from the process would be stored in three dewatering dumpster. Filtrate from these dumpsters would be directed back to Pond 3.[8] Power for the new equipment would be supplied from the existing control building.[9] For a more detailed discussion of the algae removal system, please see Appendix A, City of Colfax Air Flotation Systems for Algae Removal, of the Project Report (available from the City of Colfax).

It is anticipated that either system would treat up to 350 gallons per minute (gpm) of holding pond water, reduce suspended solids (primarily algae) from as much as 120 mg/L to less than 10 mg/L (typically >98% removal).[10]

Approximately 20 tons per year of solids would be generated by the algae removal process. These solids would stored in the dewatering dumpsters and periodically hauled to a landfill.

It is anticipated that at least one manual, dedicated light pole with directional lighting be placed in the project area.[11]

The algae removal facility would be used only during the summer and early fall months. It would be out of service during the winter. Routine annual maintenance would occur in the spring.[12]

Construction

As indicated above, the algae removal system would rely largely on existing facilities, including Pond 3, pumps, conveyance lines and power systems. New components would include the floatation tank and local controls, effluent and non-potable waterlines between the flotation tank and the manhole and equalization/return system and the dewatering dumpsters (see Figure 2-4). New concrete pads would be constructed at the end of the Chlorine Contact Basin. The flotation tank would be placed on skids on the concrete pad. The dumpsters would also be placed directly on a concrete pad. A total of approximately 66 cubic yards of cement would be used. A metal canopy would be constructed to protect the algae removal equipment from exposure, and to facilitate maintenance and operation in inclement weather.[13]

8 Chris Thomas, EIT, Nexgen, Technical Memorandum, *City of Colfax Air Flotation Systems for Algae Removal*, February 25, 2020, page 12.
9 Chris Thomas, EIT, Nexgen, Technical Memorandum, *City of Colfax Air Flotation Systems for Algae Removal*, February 25, 2020, page 20.
10 Wood Rodgers Inc., *Colfax Project Report Sewer Collection System and Wastewater Treatment Plant Improvements*, March 2020, page 7.
11 Chris Thomas, EIT, Nexgen, Technical Memorandum, *City of Colfax Air Flotation Systems for Algae Removal*, February 25, 2020, page
12 Chris Thomas, EIT, Nexgen, Technical Memorandum, *City of Colfax Air Flotation Systems for Algae Removal*, February 25, 2020, page 23.
13 Chris Thomas, EIT, Nexgen, Technical Memorandum, *City of Colfax Air Flotation Systems for Algae Removal*, February 25, 2020, page 23.

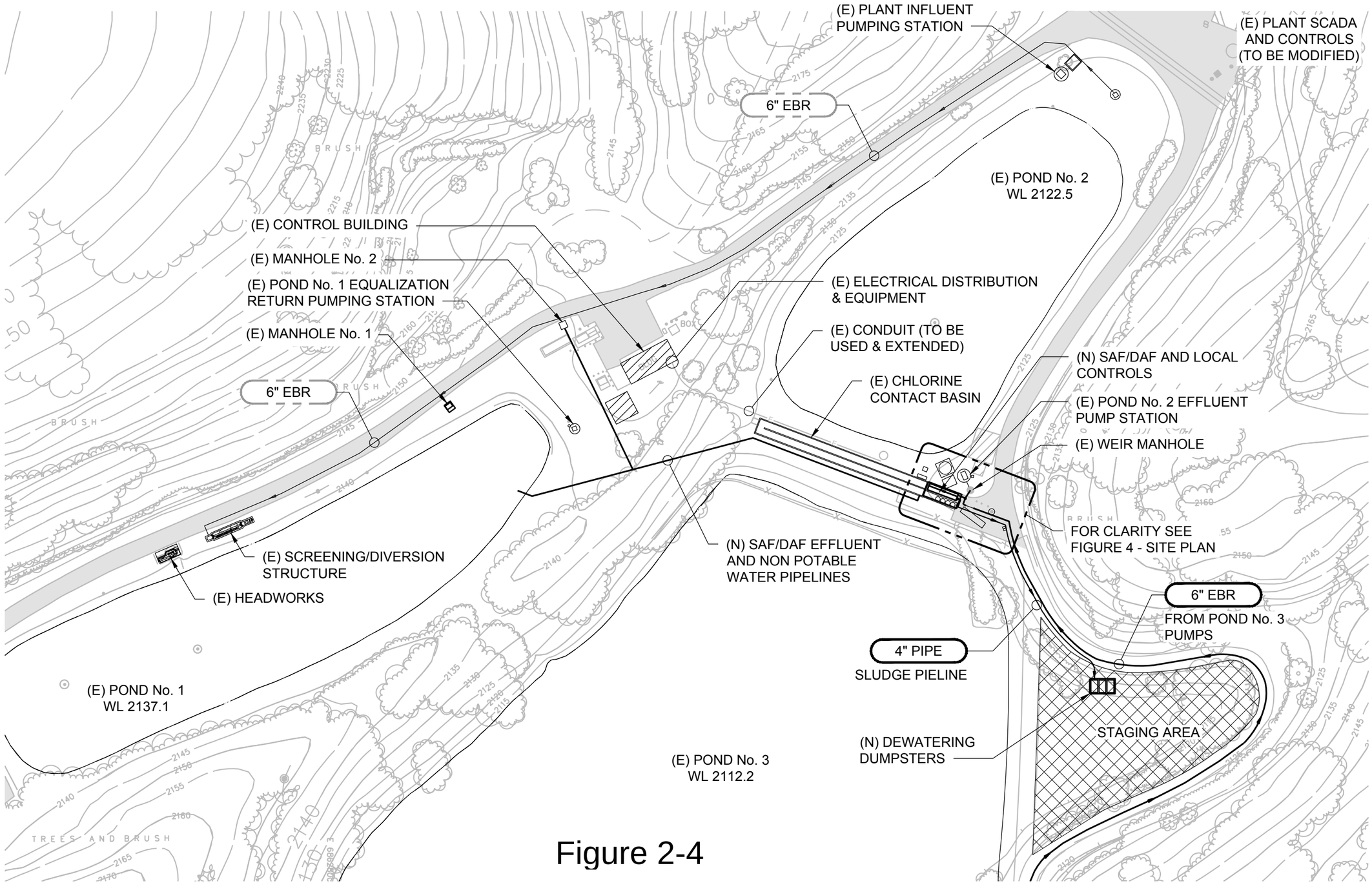

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Figure 2-4

Algae Control System Site Plan

Source: Nexgen, 2020

FIGURE 4-2 OVERALL SITE PLAN

Approximately 0.5 acres would be disturbed during project construction and installation.

Equipment to be used would include backhoes, cement mixer and haul trucks. Construction equipment would be staged in a flat rock and dirt area as shown on Figure 2-4.

A total of three construction workers per day would be on site. Construction and installation is estimated to take approximately 4 weeks.

Construction Common to All Projects
All construction activities would occur between 7am and 6pm Monday through Friday.

Standard construction best management practices (BMPs) and erosion and sediment control measures, consistent with Municipal Code section 15.30.0616 to prevent erosion and water quality degradation. These measures would be used BMPs could include, but would not be limited to:

- Street sweeping to remove potential contaminants before they reach drainage inlets or discharge location;
- Installation of straw mulch, hydraulic mulch, hydroseed and/or erosion control blankets in disturbed areas;
- Installation of sediment control measures in areas with moderate to high potential for erosion, such as silt fence, straw wattles, gravel bag check dams and sediment traps;
- Drain inlet protection to filter out construction debris so it does not enter the drainage system;
- Installation of sediment control measures in areas with moderate to high potential for erosion, such as silt fence, straw wattles, gravel bag check dams and sediment traps;
- Revegetation of disturbed areas with plants similar to those present prior to disturbance; and
- Mulching.

In addition, because the Proposed Project would disturb more than 1 acre, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared.

PROJECT REVIEW AND APPROVAL

Lead Agency
In conformance with Sections 15050 and 15367 of the CEQA Guidelines, the City of Colfax is the 'lead agency,' which is defined as the "public agency which has the principal responsibility for carrying out or disapproving a project."

Tribal Consultation
Pursuant to AB 52, the City contacted the three tribes that have requested to be notified of projects subject to CEQA. One tribe, the United Auburn Indian Community (UAIC) requested to consult. The City is currently consulting with UAIC.

City Approvals
The following actions would be taken by the City of Colfax in order to approve the proposed project:

- **Adoption of the Mitigated Negative Declaration** - pursuant to CEQA and the CEQA Guidelines;
- **Mitigation Monitoring** – Adoption of a Mitigation Monitoring Plan to reflect the

measures required to mitigate significant impacts, if any, of the project;

- **Project Report** – Approval of the Project Report

Other Required Approvals

Construction of the Proposed Project would require one or more of the following actions of regulatory agencies.

- **State Water Resource Control Board**: Approval of Clean Water State Revolving Fund construction grant application and National Environmental Policy Act (NEPA) compliance documents. In addition, issuance of a State General Construction Activity Storm Water Permit for construction disturbing more than one acre.
- **US Army Corps of Engineers**: 404 permit if any waters of the US would be filled.
- **California Department of Fish and Wildlife:** Section 1602 Streambed Alteration Agreement if there would be disturbance to the bed or bank of jurisdictional waters.
- **Regional Water Quality Control Board:** Section 401 certification if a federal 404 permit is issued.
- **Placer County Air Pollution Control District:** Acceptance of Dust Control Plan.
- **California Department of Forestry and Fire Protection (CalFire)**: Timber Harvest Plan or exemption for the solar facility.
- **City of Colfax:** Encroachment permit for replacement of sewer lines within the City's right-of-way.
- **California Department of Transportation (Caltrans)**: Encroachment permit for replacement of sewer lines within the Caltrans right-of-way.
- **PG&E:** Approval of the application for connecting the solar facility to the PG&E distribution system.

3. ENVIRONMENTAL CHECKLIST

INTRODUCTION

The following Checklist contains the environmental checklist form presented in Appendix G of the CEQA Guidelines. The checklist form is used to describe the impacts of the proposed Community Plan. For this checklist, the following designations are used:

Potentially Significant Impact: An impact that could be significant, and for which no mitigation has been identified. If any potentially significant impacts are identified and no mitigation is available to reduce the impact to a less-than-significant level, an Environmental Impact Report (EIR) must be prepared.

Less-than-Significant Impact with Mitigation Incorporated: Impacts that would be reduced to a less-than-significant level by feasible mitigation measures identified in this Environmental Checklist.

Less-than-Significant Impact: Any impact that would not be considered significant under CEQA relative to existing standards.

No Impact: The project would not have any impact.

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

Discussion

a., c. There are no roads or features within the project site that are specifically designated as scenic resources. The solar facility and algae removal system would be located within the WWTP, which is not located within view of any designated scenic corridors or public view points (e.g., scenic highway, public park). The treatment facilities can be glimpsed through trees from Grand View Avenue, the closest road to the WWTP site. The solar panels might be visible from some private land surrounding the WWTP site, if there were a direct line of site. However, the solar panels would be a maximum of 13 feet tall, which is shorter than many of the surrounding trees. Therefore, views of the facility from surrounding areas would be largely screened by trees and topography. Further, the panels would be consistent with the visual character of the treatment plant itself, which has several large artificial ponds and buildings and treatment facilities.

The algae removal system would be relatively small, and would be visually consistent with the other WWTP facilities.

The sewer pipelines would be located primarily within developed areas, so construction activities would be visible temporarily. After construction, the pipelines would not be visible.

For these reasons, the impact would on scenic resources and visual character would be ***less than significant.***

b. There are no roads or features within the project site that are specifically designated as scenic resources. Interstate 80 runs through the City of Colfax, but it is not designated a scenic highway. There are no designated scenic County roads or highways in or near the project site1. The WWTP site is not visible from Interstate 80 or other State highway. Portions of the areas where the sewer lines would be upgraded can be seen from Interstate 80, but the sewer pipelines would not be visible after construction is complete. Because the Proposed Project would not alter views from any State highway, including scenic highways, there would be ***no impact*** on scenic resources within a State scenic highway.

d. Glare is caused by light reflections from pavement, vehicles, and building materials, such as reflective glass, polished surfaces, or metallic architectural features. During daylight hours, the amount of glare depends on the intensity and direction of sunlight. Glare can be created from reflective building materials, such as windows or metallic architectural features. The solar panels would have dark surfaces, and are designed to absorb rather than reflect sunlight. Further, they would not be visible from a roadway or public gathering area. The panels would be located on the lower portion of the hillside adjacent to the existing treatment facilities, so topography and trees would shield views of them from nearby residences. The algae removal system would be small and would not be constructed of highly reflective materials. The upgraded pipelines would not be visible after construction. For these reasons, the Proposed Project would not substantially increase the amount of glare in the project vicinity.

It is anticipated that at least one dedicated light pole with directional lighting would be placed in the vicinity of the algae removal system. This lighting would be similar to other security lighting at the WWTP site, and would not illuminate adjacent properties due to its location. Because it would be directed downward, it would not result in substantial "skyglow" visible from beyond the WWTP site.

For the above reasons, the light and glare resulting from the Proposed Project would have a ***less-than-significant impact.***

1 Caltrans, *Designated and Scenic Highways*, August 2019; Caltrans, *Officially Designated County Scenic Highways*, 2015.

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

Discussion

a, b. The entire project site is designated either "urban and built up" or "other" land by the California Farmland Mapping and Monitoring Program; none of the project area is

designated farmland or used for farming.[2] There are no Williamson Act contract lands that would be affected by the Proposed Project. Therefore, there would be ***no impact*** on agricultural lands or uses.

c. None of the lands within the WWTP or sewer pipeline alignment are zoned for timber harvest, and the Proposed Project would not change existing zoning. Therefore, there would be ***no impact***.

d., e. The project site and surrounding areas do not contain any farmland, so there would be no impact on the conversion of agricultural land to other uses.

The solar facility would be located in foothill woodland, which is characterized primarily by canyon live oak, California black oak, ponderosa pine and douglas fir, [3] and the tree cover exceeds 10 percent. Therefore, the site is considered "forest land" as defined in Public Resources Code Section 12220(g). The Proposed Project would replace approximately 2 acres of this forest land with the solar facility, a non-forest use. Within the context of forest lands in Placer County and northern California, the project site is within the City's WWTP site, and is not zoned for timber use nor has it been used for timber harvest. Therefore, the Proposed Project would not result in the loss of a substantial forest resource. If the trees removed from the project site are sold and/or bartered, the City will comply with State law by filing either a Timber Harvest Plan or an exemption with the State of California. For these reasons, the impact on forest land would be ***less than significant***.

2 California Department of Conservation, Division of Land Resources Protection, Farmland Mapping and Monitoring Program, *Placer County Important Farmland 2016*, November 2017.

3 Salix Consulting, Inc., *Biological and Wetlands Resource Assessment for the I&I Mitigation and WWTP Project*, April 2020, page 10.

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

Discussion

The analysis of air pollutant emissions from the Proposed Project was prepared by ESA, and is documented in a May 2020 memorandum, *Air Quality and Greenhouse Gas Analysis for the Colfax Solar and Pipeline Project.* Technical support for the analysis is provided in Appendix A.

The project site is located within the Mountain Counties Air Basin (MCAB) and is under the jurisdiction of the Placer County Air Pollution Control District (PCAPCD). As shown in Table 3-1, the MCAB is designated nonattainment for the federal particulate matter 2.5 microns in diameter ($PM_{2.5}$) and the State particulate matter 10 microns in diameter (PM_{10}) standards, as well as for both the federal and State ozone standards.

The CEQA Guidelines (Section 15064.7) provide that, when available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make determinations of significance. The potential air quality impacts of the project are therefore evaluated according to thresholds developed by PCAPCD.[4] Table 3-2 identifies the Air Quality Significance Thresholds.

a. Air quality plans are prepared to accommodate growth, to reduce the high levels of pollutants within areas under the jurisdiction of the PCAPCD, to return clean air to the

4 Placer County Air Pollution Control District, *CEQA Handbook,* August, 2017. Available at https://placerair.org/1801/CEQA-Handbook.

TABLE 3-1
Air Basin Attainment Status

	Attainment Status	
Pollutant	**California Standards**	**Federal Standards**
SCCAB		
Ozone	Nonattainment/Severe	Moderate Nonattainment
CO	Unclassified	Maintenance
NO_2	Attainment	Attainment
Reactive Organic Gases (ROG)	N/A	N/A
Lead	Attainment	N/A
PM10	Nonattainment	N/A
PM2.5	Unclassified	Moderate Nonattainment
SO_2	Attainment	N/A

Source: EPA, *Nonattainment Areas for Criteria Pollutants (Green Book),* 2020.

TABLE 3-2
Regional Air Quality Significance Thresholds

	Mass Daily Thresholds (tons/yr)	
Pollutant	**Construction**	**Operations**
Oxides of Nitrogen (NO_X)	82	55
Reactive Organic Gases (ROG)	82	55
Fine Particulate Matter (PM2.5)	82	82

Note: As the Proposed Project would not involve the development of any major lead emissions sources, lead emissions are not analyzed further.
Source: Placer County Air Pollution Control District, *CEQA Handbook,* August, 2017.

region, and to minimize the impact of reduced air quality on the economy. The PCAPCD and other local air districts in the Sacramento planning region are required to comply with and implement the State Implementation Plan (SIP) to demonstrate how and when the region can attain the federal ozone standards. In 2017, air districts from the Sacramento planning region developed the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2017 SIP Revisions Plan) to address how the region would attain the federal 8-hour ozone standard. U.S. EPA approved the 2017 SIP Revisions Plan effective July 3, 2018. The 2017 SIP Revisions Plan is the applicable air quality plan for the Proposed Project.

Projects that are considered to be consistent with the air quality plans would not interfere

with attainment of the identified air quality levels.

The PCAPCD thresholds of significance for criteria pollutants are designed to bring the region into compliance with the applicable air quality plans and foster an overall reduction in regional air pollution. As discussed in Items 3.b and 3.c, below, the Proposed Project emissions would not exceed any of the regulatory thresholds for criteria pollutants. Therefore, the Proposed Project would be in conformance with the air quality management plans, including the federal Clean Air Act, and the impact from the Proposed Project would be ***less than significant***.

b. Project-related air quality impacts fall into two categories: short-term impacts due to construction and long-term impacts due to operations. During construction, the Proposed Project would affect local particulate concentrations primarily due to fugitive dust sources and diesel exhaust. Under operations, the Proposed Project would result in an increase in emissions primarily due to motor vehicle trips from maintenance activities and electrical consumption from the operation of the Proposed Project. Other sources include minor area sources, such as the use of consumer products.

Based on the PCAPCD 2017 CEQA Air Quality Handbook, cumulative thresholds have been revised to match those of the project-level analysis (as shown in Table 3-2). Therefore, the project would be less than cumulatively considerable if the Proposed Project impacts are below the regulatory thresholds with or without mitigation.

Construction

Construction-related emissions arise from a variety of activities, including (1) grading, excavation, and other earth moving activities; (2) travel by construction equipment and employee vehicles, especially on unpaved surfaces; and (3) exhaust from construction equipment, trucks, and worker vehicles.

Construction emissions are considered short-term and temporary, but have the potential to represent a significant impact with respect to air quality. Particulate matter (i.e., PM_{10} and $PM_{2.5}$), are among the pollutants of greatest localized concern with respect to construction activities. Particulate emissions from construction activities can lead to adverse health effects and nuisance concerns, such as reduced visibility and soiling of exposed surfaces. Particulate emissions can result from a variety of construction activities, including excavation, grading, vehicle travel on paved and unpaved surfaces, and vehicle and equipment exhaust. Construction emissions of PM can vary greatly depending on the level of activity, the specific operations taking place, the number and types of equipment operated, local soil conditions, weather conditions, and the amount of earth disturbance.

Emissions of ozone precursors reactive organic gases (ROG) and oxides of nitrogen (NOx) are primarily generated from mobile sources and vary as a function of vehicle trips per day associated with delivery of construction materials, vendor trips, worker commute trips, and the types and number of heavy-duty, off-road equipment used and the intensity and frequency of their operation.

It is mandatory for all construction projects in PCAPCD jurisdiction to comply with Rule 228 for controlling fugitive dust. Incorporating Rule 228 into the Proposed Project would reduce regional PM10 and PM2.5 emissions from construction activities. Specific Rule 228 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, minimizing track-

out of materials onto neighboring roadways, covering all trucks hauling soil with a fabric cover and maintaining a freeboard height of 12 inches, and maintaining effective cover over exposed areas. Compliance with Rule 228 was accounted for in the construction emissions modeling.

Construction emissions for the Proposed Project were estimated using the most recent version of the California Emissions Estimator Model (CalEEMod), version 2016.3.2, and California Emissions Factor Model (EMFAC2017)[5], as applicable. Modeling was based on project-specific data, where available. Where project-specific information was not available (for example, the age and fuel efficiencies of the vehicle fleet) default model settings and/or reasonable assumptions based on other similar projects were used to estimate criteria pollutant emissions. Modeling assumptions, calculations and data output files are provided in Attachments A, B, and C, respectfully, of Appendix A. Criteria pollutant emissions as estimated are compared to the PCAPCD's construction thresholds.

Construction of the full project was assumed to be completed within 5 months between May and September 2021. The Solar site is anticipated to be constructed over 6 weeks between May and June 2021; the algae removal system would be constructed over 4 weeks in May of 2021; and the pipeline repairs would take place over 5 months between May and September 2021. This approach conservatively assumes that construction of the three project components occurs in the same general period. If construction of the project components does not overlap, daily emissions levels could be lower than indicated in this analysis.

Table 3-3 shows unmitigated criteria pollutant emissions from construction. The estimates include the following basic construction scenarios. The solar facility construction includes site preparation, grading/excavation, drainage/utilities/trenching, and foundation/concrete pouring. Pipeline repair includes drainage/utilities/trenching, trenchless pipe rehabilitation, and paving. The algae removal system installation includes drainage/utilities/trenching, and foundation/concrete pouring.

TABLE 3-3
Unmitigated Construction Emissions (lbs/day)

Phase	ROG	NOx	CO	SOx	PM10	PM2.5
Solar Facility	1	8	7	<1	<1	1
Sewer Upgrades	2	20	21	<1	<1	1
Algae Removal System	1	6	5	<1	<1	<1
Total	3	33	34	<1	<1	3
PCAPCD Threshold	**82**	**82**	**N/A**	**N/A**	**82**	**N/A**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

N/A = not applicable
Values are rounded to the nearest whole number and therefore values may not add directly. Parenthetical represents negative value.
Source: ESA 2020. (See Appendix A, Attachments A and B).

As shown in Table 3-3, maximum daily regional emissions would not exceed the

5 EMFAC2017 was updated to take into account the new SAFE Rule 1 increases in emissions.

PCAPCD's significance threshold for any criteria pollutant. Therefore, the Proposed Project would result in a ***less- than-significant impact*** for construction emissions.

Operation

CalEEMod and EMFAC2017 was also used to estimate operational emissions from project build out, assumed to occur in 2021. Area source, energy use, water consumption and solid waste generation emissions were quantified using CalEEMod. Mobile source emissions were quantified using EMFAC2017. It was assumed that the Proposed Project would not result in any new employees; however, both the solar and algae removal system would require annual maintenance. The solar facility is anticipated to result in approximately 8 days of maintenance per year for washing of solar panels and general maintenance. It is anticipated that four two-day maintenance activities would occur for solar maintenance, and that approximately 20,000 gallons of water would be required annually to clean the solar panels. Maintenance of the algae removal system would result in approximately 12 trips per year and would generate 20 tons per year of solid waste. The trip length for both maintenance activities is anticipated at 60 miles per trip.

The algae removal system would consume approximately 8,500 kWhs per year and the solar facility would generate approximately 1 million kWhs per year. Modeling assumptions, calculations, and data output files are provided in Attachment A, B, and C respectfully.

Table 3-4 summarizes the annual operational emissions of criteria pollutants and compares them to the PCAPCD significance thresholds. As shown, none of the criteria pollutants would exceed PCAPCD's annual thresholds. Therefore, the Proposed Project would result in a ***less-than-significant impact*** with respect to operational emissions.

TABLE 3-4
Unmitigated Operational Emissions (lbs/day)

Phase	ROG	NOx	CO	SOx	PM10	PM2.5
Area	<1	<1	<1	<1	<1	<1
Energy	<1	<1	<1	<1	<1	<1
Mobile	<1	3	8	<1	<1	<1
Project Total	<1	<1	<1	<1	1	<1
PCAPCD Threshold	**55**	**55**	**N/A**	**N/A**	**82**	**N/A**
Significant Impact?	**No**	**No**	**No**	**No**	**No**	**No**

* N/A = not applicable
Values are rounded to the nearest whole number and therefore values may not add directly.
Parenthetical represents negative value.
Source: ESA 2020. (See Appendix A, Attachments A and B).

Health Effects

In Sierra Club v. County of Fresno (S219783) (Sierra Club) the Supreme Court held that CEQA requires lead agencies to either (i) make a "reasonable effort" to substantively connect the estimated amount of a given air pollutant a project will produce and the health effects associated with that pollutant, or (ii) explain why such an analysis is infeasible (6 Cal.5th at 1165-66). The Court also clarified that that CEQA "does not mandate" that EIRs include "an in-depth risk assessment" that provides "a detailed comprehensive analysis…to evaluate and predict the dispersion of hazardous substances in the environment and the potential for exposure of human populations and to assess and quantify both the individual and population wide health risks associated

with those levels of exposure."[6]

USEPA and CARB have established AAQS at levels above which concentrations could be harmful to human health and welfare, with an adequate margin of safety. Further, California air districts, like PCAPCD, have established emission-based thresholds that provide project-level estimates of criteria air pollutant quantities that air basins can accommodate without affecting the attainment dates for the AAQS, providing indicators of significance for regional and localized air quality impacts from both construction and operation of projects. PCAPCD thresholds take into account that the MCAB is a distinct geographic area that has critical air pollution problems for which AAQS have been established to protect human health and welfare. Because the Proposed Project would be well below those thresholds, it would not substantially increase the risks to human health due to air emissions.

c. Toxic air contaminants (TACs) are generally defined as those contaminants that are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. TACs are also defined as an air pollutant that may increase a person's risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Other factors, such as the amount of the chemical, its toxicity, how it is released into the air, the weather, and the terrain, all influence whether the emission could be hazardous to human health. TACs are emitted by a variety of industrial processes such as petroleum refining, electric utility and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust and may exist as PM10 and PM2.5 or as vapors (gases). TACs include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources.

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., the potential exposure to TACs to be compared to applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to State Office of Environmental Health Hazard Assessment (OEHHA), carcinogenic health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period or duration of activities associated with the project.

Sensitive receptors in the project area would include residences and schools in proximity to the sewer lines. The nearest sensitive receptors to the solar facility and algae reduction system would be 500 feet or more from the WWTP.

Construction

Construction-related activities have the potential to expose nearby sensitive receptors to substantial health risk. Project construction would result in short-term emissions of diesel PM, which is a TAC, and could pose a carcinogenic health risk. Health risk is measured using an exposure period of 70 years. The exhaust of off-road heavy-duty diesel equipment would emit diesel PM during site grading; paving; installation of utilities,

6 California Supreme Court, Sierra Club v. County of Fresno. 6 Cal.5th 502, 517-522, 2018.

materials transport and handling; building construction; and other miscellaneous activities.

The PCAPCD does not require health risk assessments for construction-related activities. Additionally, according to the OEHHA, projects lasting less than 2 months should not be evaluated due to uncertainties in assessing cancer risk from very short-term exposures. Construction of the solar facility and the algae reduction system would occur in less than two months. The sewer pipeline upgrades would occur over 5 months. However, the repairs would occur over the length and location of pipeline needing repairs. There are no sensitive receptors that would be exposed to more than two months of emissions from activities associated with upgrading the sewer pipelines. Because exposure to sensitive receptors is less than two months for the extent of the construction activities, a quantitative health risk is not required and impacts to localized receptors from construction health risk are anticipated to be less than significant.

Operation

The California Air Resources Board (ARB) identifies the most notable sources of TAC emissions as auto body repair services, gasoline dispensing stations, manufacturing, distribution centers, rail yards, chrome platers, ports, petroleum refineries, and freeways or major roadways.[7] ARB specifies buffer distances of up to 1,000 feet around stationary sources, and 500 feet from high volume roadways, which are identified as having 50,000 daily trips or more on rural roadways.

The Proposed Project does not include any is a solar facility and algae removal system installation combined with pipeline repair. Once construction activities are completed, the pipeline would result in no new operational impacts. The operation of the solar facility and algae removal system would not rely on a stationary power source or process that would generate TAC emissions. The Proposed Project would be electrically operated and would not require a generator or back-up generator to operate. Additionally, while heavy duty vehicles would access the site for maintenance (dumpster truck or water trucks), less than 100 would access the site on an annual basis with a maximum of 7 trucks are anticipated to access the site daily. Therefore, the operation of the project would not have the potential to expose nearby sensitive receptors to TACs at levels that would pose a health risk.

d. During construction, exhaust from equipment could produce discernible odors typical of most construction sites. Such odors could be a temporary nuisance to adjacent uses, but would be intermittent and would not affect a substantial number of people. Additionally, odors dissipate with distance. Therefore, these emissions would not create a substantial nuisance.

Land uses that are associated with odor complaints typically include agricultural uses (animal husbandry), wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Typical operational activities associated with solar arrays and pipelines are not associated with substantial production of odors. Maintenance activities associated with the algae removal system could result in minor odor emissions during waste removal. This would occur for intermittently during routine maintenance, and would result in minimal exposure at locations offsite. Thus, the Proposed Project is not expected to result in objectionable

7 California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective.* April, 2005. https://www.arb.ca.gov/ch/handbook.pdf

odors for the neighboring uses. Therefore, this impact would be ***less than significant.***

Issues		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than Significant Impact	No Impact
4.	**BIOLOGICAL RESOURCES.** *Would the project:*				
	a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	■	☐	☐
	b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. 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 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 Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

Discussion

The analysis of impacts on biological resources is based on the *Biological and Wetlands Resource Assessment for the I&I Mitigation and WWTP Project* by Salix Consulting, Inc.

(BWRA, see Appendix B). In preparing the report, the biologist for Salix Consulting conducted a field survey of the study area, including the entire sewer alignment that could be upgraded and approximately 10 acres at the WWTP, including the algae removal system site and two potential sites for the solar facility.

As shown in Figures 3-1 and 3-2, the vast majority of the project site is developed and/or disturbed. The primary biological habitat within the study area is foothill woodland. There are also areas of riparian habitat along portions of the sewer pipeline.

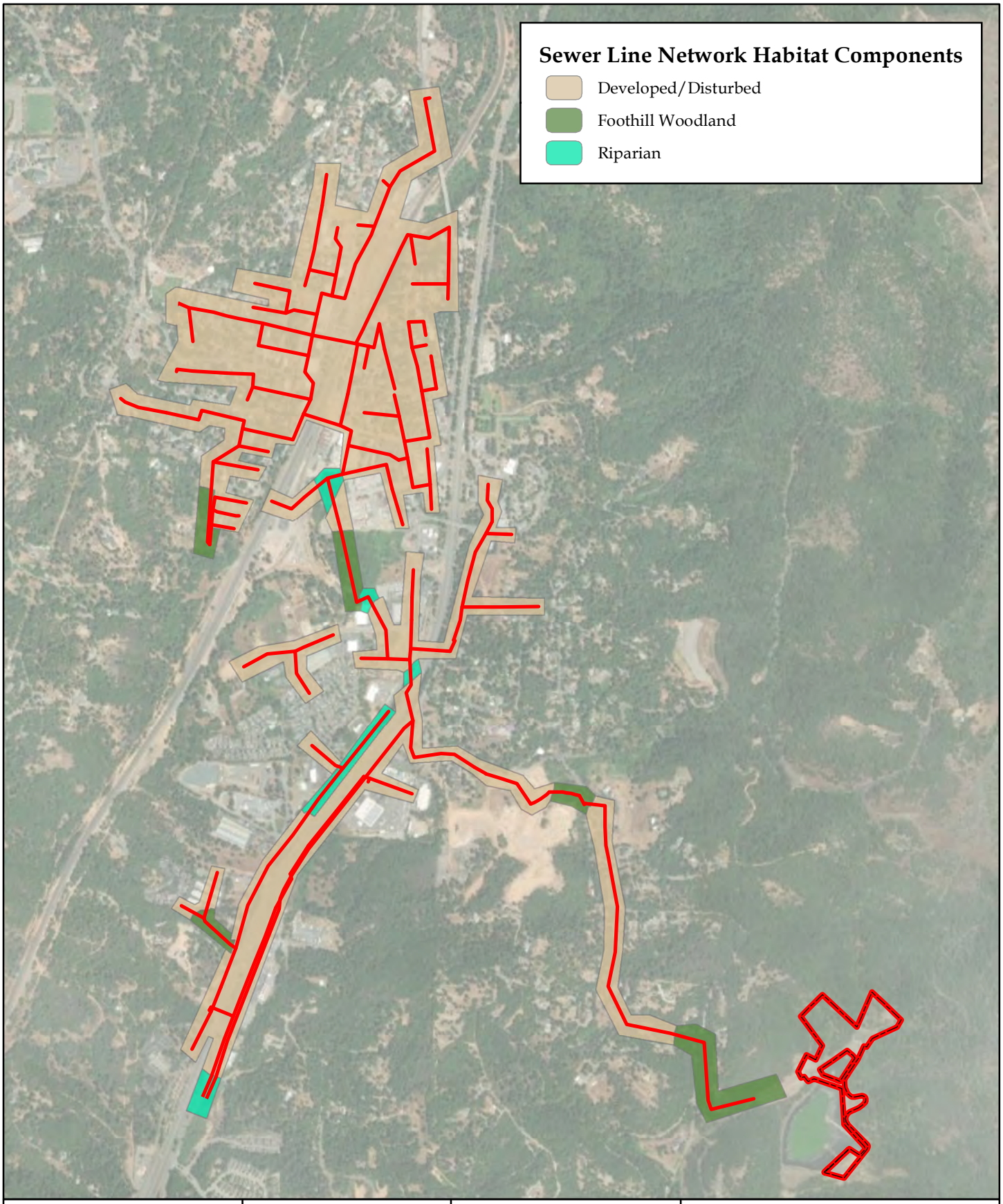
a. The California Natural Diversity Database (CNDDB) identified 19 special status plants and 12 special status animal species with the potential to occur within the study area. However, the project site does not contain suitable habitats for 10 of the plant species, and does not contain suitable soils for another seven species. There is habitat in some portions of the study area that could support two of the identified plant species—dubious pea and Butte County fritillary (see Table 3-5). These plants are not federal- or State-listed species, but they are ranked 3 and 3.2, respectively, on the California Native Plant Society (CNPS) rare plant list. Rank 3 indicates that more information is needed in order to assign them to assign them to another rank or determine that they do not warrant ranking.[8] The CNPS also assigns threat ranks, and 0.2 indicates that a plant is moderately threatened in California.[9] The BWRA concluded that it was possible, but unlikely that either plant would occur within the WWTP site or within the sewer pipeline alignments due to their disturbed nature and the marginal habitat value (see page 26 of Appendix B).

   Of the 12 special-status animal species that were identified in the CNDDB and US Fish and Wildlife Service (USFWS) database queries, none is expected to occur within the study area. For most of these species, the study area does not provide suitable habitat, and two species are not known to occur in the area, in one case because the study area is outside of the species' range (the Delta smelt). Additionally, seven species were determined not to occur within the project site, because it is proximate to human activity and does not have adequate cover to support these two mammals. One species, Foothill yellow-legged frog, a California Candidate species, could occur in Bunch Creek, which is located in proximity to a portion of the project sewer alignment. However, Bunch Creek would not be affected by the Proposed Project, and this species does not move far from water (see pages 26 and 27 of Appendix B). No federally-listed species would be affected by the Proposed Project.

   In summary, the only special-status plant species that could be affected by the Proposed Project are the Dubious pea and Butte County fritillary. Although it is unlikely that either plant occurs within the study area, potential habitat is present in some areas. If either plant is present, and was disturbed during project construction, this would be a significant impact. The following mitigation measure would reduce this impact by ensuring that the plants are identified if present, and either avoided or relocated. Therefore, this impact would be ***less than significant with mitigation***.

8 California Native Plant Society, *CNPS Rare Plant Ranks*, accessed at https://www.cnps.org/rare-plants/cnps-rare-plant-ranks, May 25, 2020.

9 California Native Plant Society, *CNPS Rare Plant Ranks*, accessed at https://www.cnps.org/rare-plants/cnps-rare-plant-ranks, May 25, 2020.



Salix consulting, inc.

N

0 600 1,200

Feet

Sewer Line Network

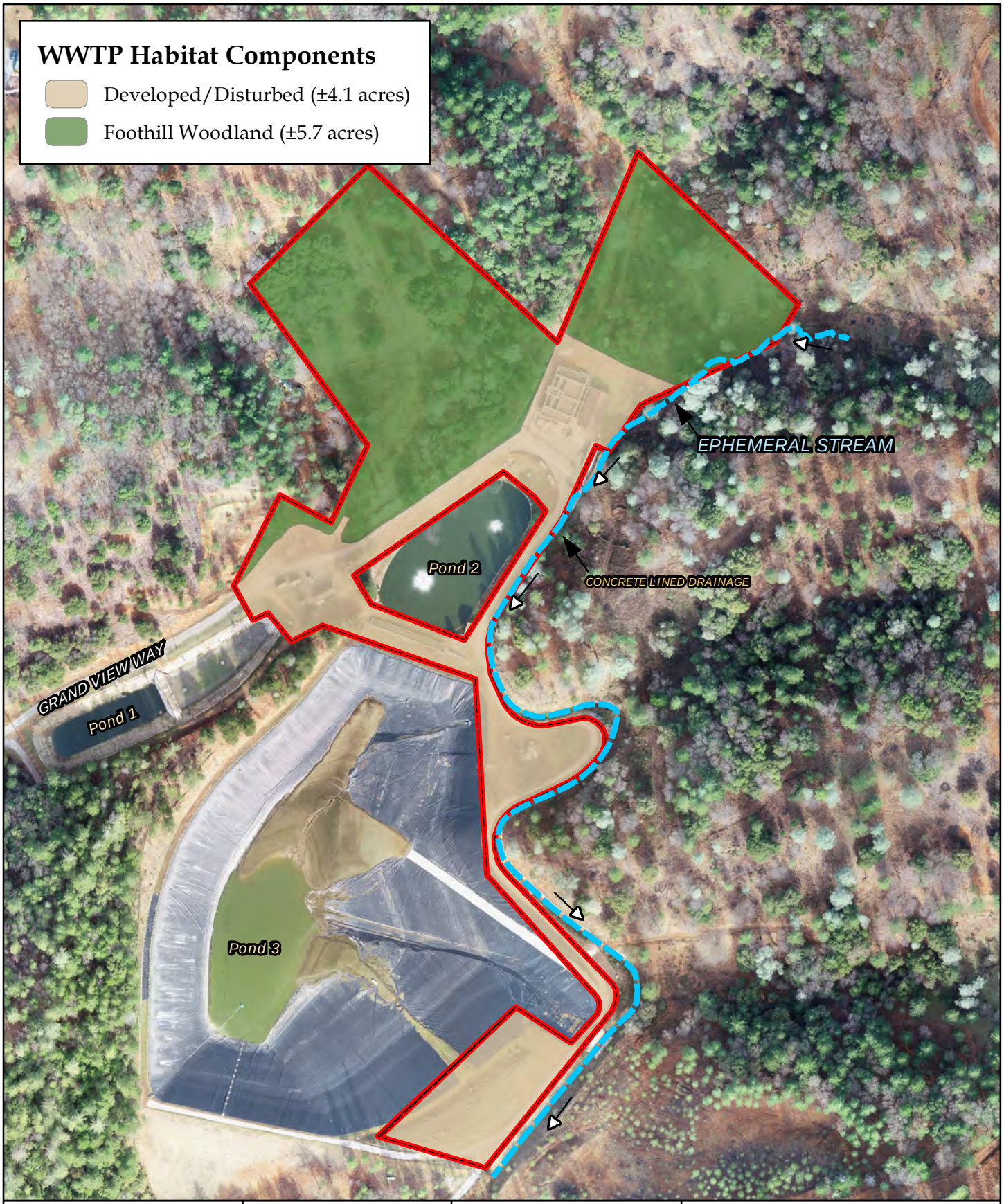
Study Area

Figure 3-1

HABITAT COMPONENTS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA



Salix consulting, inc.

N

0 110 220

Feet

Study Area

Ephemeral Stream

Imagery: 01-15-20 Salix Consulting

Figure 3-2

HABITAT COMPONENTS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA

TABLE 3-5
Special-Status Plant Species Determined to Have Some Potential to Occur within the Study Area

Species	Status Federal	State	CNPS	Habitat	Potential for Occurrence Within Study Area
Dubious pea *Lathyrus sulphureus argillaceus*	-	-	3	Cismontane woodland; upper and lower montane coniferous forest.	Unlikely. Marginal habitat may be present in undisturbed areas on site.
Butte County fritillary *Fritillaria eastwoodiae*	-	-	3.2	Chaparral; cismontane woodland; lower montane coniferous forest (openings); [sometimes serpentinite].	Unlikely. Marginal habitat may be present in undisturbed areas on site.

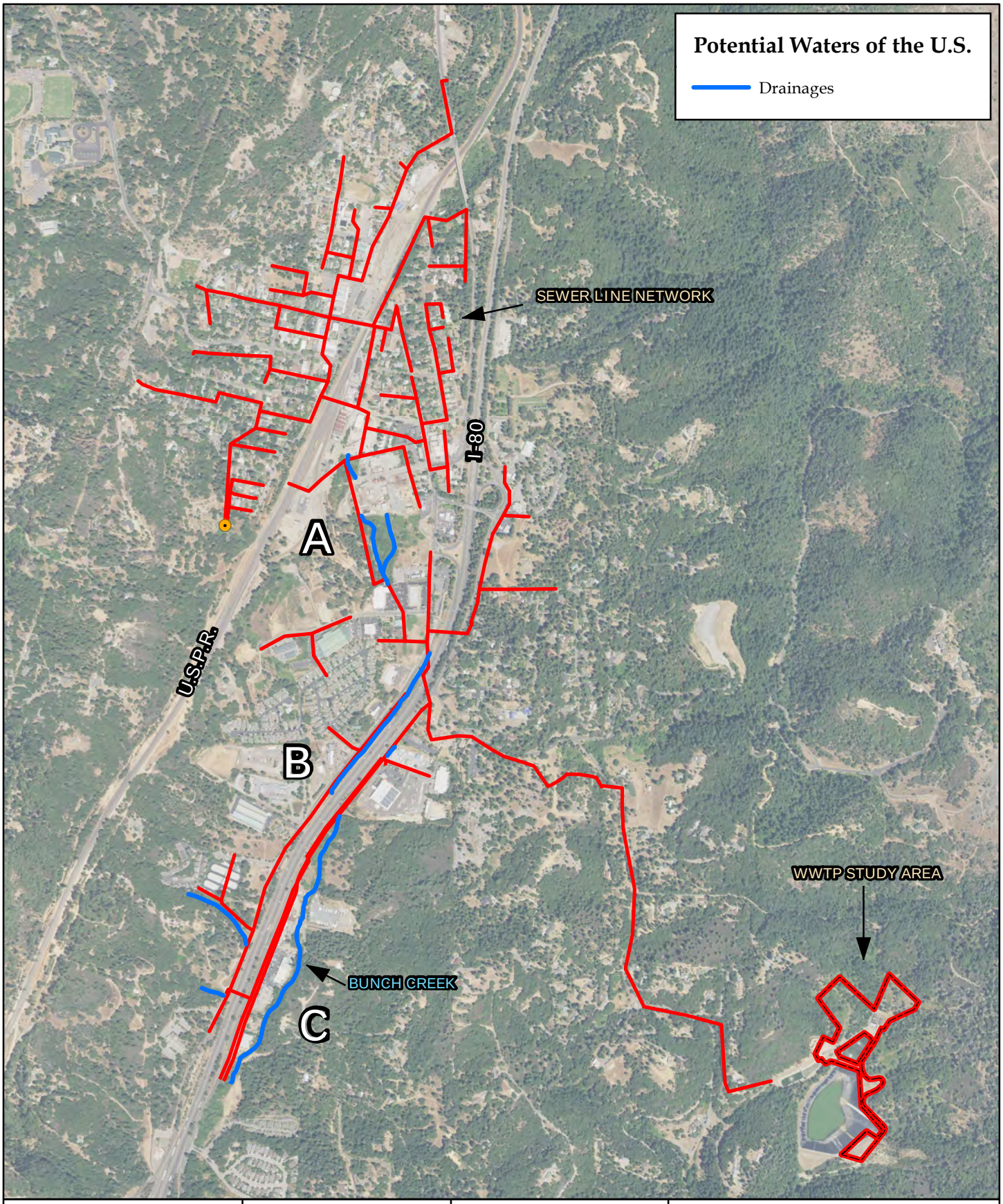
Notes:
CNPS Rank 3: Plants about which more information is needed, a review list
CNPS Threat Rank: .2 Fairly endangered (20 to 80% of occurrences threatened)
Definitions for the Potential to Occur: Unlikely. Some habitat may occur, but disturbance may restrict/eliminate the possibility of occurrence. Habitat may be very marginal, or study area is outside range of species.
Source: Salix, Inc., 2020

Mitigation Measure 1

Prior to construction activity (including grubbing and grading) in the areas with natural habitat shown in BWRA Figures 3a and 3b, the site to be disturbed shall be surveyed by a qualified biologist during the appropriate season and in the same year that construction is to occur. If any of either plant species is present, the plants shall be avoided, and temporary fencing shall be placed around the plants to ensure that they are protected during construction. If avoidance is not feasible, then the plants and/or their seeds shall be relocated by the biologist to a nearby site identified in consultation with the City of Colfax.

b., c. The BWRA evaluated for the project site for areas that could be considered wetlands and "other waters of the U.S." or "waters of the State" under the Porter-Cologne Act. One ephemeral stream was identified within the WWTP site that could qualify as a potential Water of the US (see Figure 3-2). Because of its location on the edge of the WWTP site, this ephemeral stream is not expected to be disturbed by project construction.

Several features that could be wetlands are located in proximity to sewer lines (see Figure 3-3). Most of these features are linear stormwater conveyances. Bunch Creek also runs parallel to a portion of the sewer pipeline, but the creek is not in an area that would be disturbed by project construction. As discussed in Chapter 2, the pipeline segments that will be upgraded are not known at this time. A small number of segments either crosses a drainage or would be close enough that project construction could occur within the drainage. If the affected drainages meet the criteria of "waters", then their disturbance could be a significant impact.



Salix consulting, inc.

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Feet

Study Area

Sewer Line Network

Pump Station

Figure 3-3

SEWER SYSTEM CONSTRAINTS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA

As discussed in Item 4.a and shown in Figure 3-1, there are several places where the sewer alignment passes through riparian habitat. For the most part, these areas are collocated with the drainages shown in Figure 3-3. The loss of riparian habitat would be considered a significant impact.

Mitigation Measure 2 would reduce the severity of this impact by ensuring that waters of the US and/or State that could be disturbed are delineated, and that, if feasible, project construction avoids such waters and associated riparian habitat. If avoidance is not feasible, then the Proposed Project would need to demonstrate no net loss of "waters" or habitat. This requirement could be met through the permitting process. For waters of the US, the US Army Corps of Engineers oversees 404 permits for fill of wetlands and other waters. For streams, streamside habitat (e.g., riparian habitat) and waters of the State, the California Department of Fish and Wildlife must issue a Streambed Alteration Agreement.

Mitigation Measure 2

2(a) To the extent feasible, the layout, design and construction of the solar facility, sewer line upgrades and algae removal system, including staging areas, shall avoid potential Waters of the US and of the State. If any of the drainages shown on Figures 5a through 5e of the BWRA would be disturbed by project construction, a wetland delineation shall be prepared by a qualified biologist, in accordance with the U.S. Army Corps of Engineers "Minimum Standards for Acceptance of Preliminary Wetlands Delineations" and "Final Map and Drawing Standards for the South Pacific Division Regulatory Program," and submitted to the U.S. Army Corps of Engineers Sacramento District Office for review and verification. A 404 permit from the USACE shall be obtained prior to any disturbance of verified wetlands.

2(b) If project construction would affect a stream crossing, bed, bank or associated riparian vegetation related to any of the drainages shown in Figures 5a through 5e of the BWRA, a Section 1602 Streambed Alteration Agreement shall be obtained prior to disturbance of any of these areas.

2(c) If wetlands are present, a wetland and/or riparian mitigation plan shall be prepared and shall ensure no net loss of waters of the U.S. and riparian vegetation. The wetland and/or riparian mitigation plan shall be based on a wetland delineation verified by the USACE. This measure may be implemented through the 404 permit and/or Streambed Alteration Agreement processes. The plan shall include the following:

(i) Compensation for the loss of wetland and/or riparian habitat through a combination of restoration, enhancement, and/or the purchase of mitigation credits at an approved mitigation bank. The ratio of compensation shall be determined in consultation with USACE and/or California Department of Fish and Wildlife (CDFW), as part of the 404 permit and/or Streambed Alteration Agreement processes, but shall not be less than 1:1.

(ii) Prior to any construction activities on the site, a protective fence shall be erected around the boundaries of wetland and/or riparian areas to be retained. This fence shall remain in place until all construction activity in the immediate area is completed. No activity shall be permitted within the protected areas except for those expressly permitted by the USACE and/or CDFW.

(iii) For any construction activities in areas that could result in runoff to Bunch

Creek or any other drainage that supports riparian habitat or wetlands that are to be preserved, water quality shall be protected using best management practices (BMPs) and erosion control techniques during construction including, but not necessarily limited to, preservation of existing vegetation, mulches (e.g., hydraulic, straw, wood), and geotextiles and mats, during construction.

d. Although the study area does not include habitat for special-status animal species, it does contain potential nesting habitat for raptors and migratory birds. The Migratory Bird Treaty Act (MBTA) prohibits direct and affirmative purposeful actions that would reduce migratory birds, their eggs, or their nests, by killing or capturing. In addition, California Fish and Game Code § 3503 states "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto." Violation of these regulations could occur as a result of project construction if nests, eggs, or young birds are destroyed during site clearing and/or other construction activities. This would be a significant impact. Mitigation Measure 3 would reduce this impact to a less-than-significant level by requiring that the area to be disturbed by project construction be surveyed for nests immediately prior to construction activities, and if any active raptor or migratory bird nests are found, the nests must be protected until the young have fledged.

Mitigation Measure 3

3(a) If tree removal or other ground disturbance will occur during the breeding/nesting season (February 1 through August 31), preconstruction surveys for nesting raptors and other protected migratory birds shall be conducted prior to any vegetation clearing or other ground disturbance associated with the Proposed Project. The preconstruction surveys shall be conducted by a qualified consulting biologist no more than 14 days prior to initiation of project construction. If no nesting raptors or other protected nesting birds are identified, then no further action is required.

3(b) If nesting raptors are found, an exclusion zone around each nest shall be established in consultation with the California Department of Fish and Wildlife (CDFW). If other protected nesting birds are found, an exclusion zone around each nest shall be established at an appropriate distance until the young-of-the-year are no longer dependent upon the nest site. Alternatively, project construction may be delayed until after August 31, when all local nesting birds are assumed to have completed nesting.

3(c) If project construction commences after August 31, when all local nesting birds are assumed to have completed nesting, no surveys would be required.

e. The City of Colfax has adopted protections for trees over 6 inches diameter at breast height (dbh) through Municipal Code, Chapter 17.110, *Tree Preservation Guidelines*. Under the Proposed Project, tree removal would be required for installation of the solar facility. Additionally, some trees could be removed for the sewer pipeline upgrades, depending on which segments are improved. The algae removal system would not require that any trees be removed. The Proposed Project would comply with the City ordinance, so there would not be a conflict with City ordinances or policies. Therefore, ***no impact*** would occur.

f. No adopted Habitat Conservation Plans, Natural Conservation Community Plans, or other approved local, regional, or State Habitat Conservation Plans have been adopted

for the study area or immediate vicinity. Therefore, the Proposed Project would not conflict with such plans and there would be ***no impact.***

Issues		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than Significant Impact	No Impact
5.	**CULTURAL RESOURCES.** *Would the project:*				
a.	Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	■	☐	☐
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section15064.5?	☐	■	☐	☐
c.	Disturb any human remains, including those interred outside of formal cemeteries.	☐	■	☐	☐

Discussion

The analysis of impacts on cultural resources is based on the *Historic Properties Identification Report for the Colfax Wastewater System Improvements (HPIR)* prepared by Peak & Associates (April 2020). To prepare the HPIR, Peak & Associates conducted a records search, literature review and field inspection, and consulted with local tribal representatives. The following setting information and analysis is derived from the HPIR.

At the time of contact with Europeans, the Colfax area was controlled by the Nisenan, a subgroup of Maidu. Malaria was introduced into Central California circa 1831, resulting in a tremendous epidemic in 1833 that decimated the region's Native American population. It is estimated that 75 percent of the total Native American population in the region died in that single year. Malaria was also present in the mining camps of the Sierra foothills, and remained endemic until approximately 1880.[10]

After the 1848 discovery of gold at Coloma, thousands of people flocked to California. Many towns and cities grew up to provide services to the miners. The community of Illinoistown was established in the 1850s southwest of the project area, within the present day boundaries of Colfax. Illinoistown was a transportation center with extensive freighting and staging operations. In 1865, the transcontinental railroad was completed to Clipper Gap. Colfax became a terminus in September 1865. The City of Colfax continued to provide supplies and services to the mining industry during its boom periods. It was also a shipping point for lumber and fruit.

South Auburn Street became the northern alternate route for the first transcontinental highway, the Lincoln Highway, completed in 1910. It later became Highway 40, and ultimately was replaced by Interstate 80. Today, Colfax provides services to travelers on Interstate 80.[11]

10 Peak & Associates, *Historic Properties Identification Report for the Colfax Wastewater System Improvements (HPIR),* April 28, 2020, page 7.

11 Peak & Associates, *Historic Properties Identification Report for the Colfax Wastewater System Improvements (HPIR),* April 28, 2020, page 7 and 8.

Colfax was named for Schulyer Colfax, Vice President of the United States under President Grant from 1869-1873.

a.-c. No historic properties were identified within the areas surveyed, which included the pipeline segments that could be subject to upgrades and approximately 10 acres at the WWTP.[12] In this case, "historic properties" include both prehistoric and historic sites and artifacts that would be defined as significant under Section 15064.5 of the CEQA Guidelines. Nonetheless, there is the possibility that subsurface sites or artifacts are present, but have been obscured from view by vegetation, fill or other historic activities so that there is no surface evidence.[13] If such resources are present, they could be damaged or destroyed during excavation and grading, which would be a significant impact. Mitigation Measure 4(a) would reduce this impact to a ***less-than-significant*** level by ensuring that archaeological resources, if unexpectedly encountered during construction, are identified before they can be damaged or disturbed by construction activities, and that they are treated appropriately after discovery. State law further requires that, if human remains are discovered, the County Coroner must be notified, as indicated in Mitigation Measure 4(b). If the Coroner determines that the remains are Native American, the most likely descendent must be consulted regarding appropriate re-interment.

Mitigation Measure 4

4(a) Prior to the onset of construction, all construction staff would be involved in vegetation removal, grubbing, grading and/or excavation will be provided with training in the identification of cultural resources during these activities. If a member of the construction team believes that an archaeological resource has inadvertently been uncovered, all work within 50 feet of the discovery shall cease, and a qualified archaeologist shall be notified immediately. Appropriate steps shall be taken, as directed by the archaeologist, to protect the discovery site. The area of work stoppage shall be adequate to provide for the security, protection, and integrity of the archaeological resources in accordance with federal and State Law, and at a minimum shall be 50 feet from the discovery. Vehicles, equipment, and unauthorized personnel shall not be permitted to traverse the discovery site. Any artifacts and/or sites that are uncovered shall be recorded, preserved in situ and/or donated to an appropriate organization or archive, according to the recommendations of the archaeologist. For resources of Native American origin, the geographically culturally affiliated Native American tribe(s) shall be contacted to request input regarding the disposition of the resource. Recommendations of the Native American representative shall be documented for the project record, and a justification shall be provided for any recommended measures that are not implemented.

4(b) If human remains are discovered or uncovered during any phase of construction, all work in the area shall stop, and the Placer County Coroner shall be notified immediately, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's

12 Peak & Associates, *Historic Properties Identification Report for the Colfax Wastewater System Improvements (HPIR),* April 28, 2020, page 11.

13 Peak & Associates, *Historic Properties Identification Report for the Colfax Wastewater System Improvements (HPIR),* April 28, 2020, page 11.

Health and Safety Code. No further excavation or disturbance of the site or any nearby area suspected to overlie adjacent remains shall occur until the Placer County Coroner has determined that the remains are not subject to any provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative. If the Placer County Coroner determines that the remains are not subject to his or her authority and if the Coroner recognizes the human remains to be those of a Native American or has reason to believe that they are those of a Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours to request the names of the most likely descendent(s), and Public Resources Code Section 5097.98 shall be adhered to in the treatment and disposition of the remains. The approved treatment and disposition of the remains shall be implemented before the resumption of ground-disturbing activities within 50 feet of where the remains were discovered.

Issues		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than Significant Impact	No Impact
6.	**Energy.** *Would the project:*				
	a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	■	☐
	b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	■	☐

Discussion

a. The Proposed Project would not result in the inefficient, wasteful or unnecessary consumption of energy. Construction of the Proposed Project would require the use of fuels (primarily gasoline and diesel) for operation of construction equipment (e.g., dozers, excavators, generators, and trenchers), construction vehicles (e.g., dump and delivery trucks), and construction worker vehicles. However, construction activities would be temporary and would not result in a long-term increase in demand for fuel.

After construction is complete, there would be a net reduction in non-renewable electricity use due to the installation of the solar facility, which would generate up 1 million kWh per year, enough to fully offset WWTP electrical demand. The upgraded pipelines would not increase energy use, and could slightly reduce the energy needed by the WWTP by reducing the amount of stormwater conveyed to the plant. Similarly, the algae removal system would render plant operations more efficient, which could have a small positive effect on energy use.

The Proposed Project would not require additional staff, so there would not be a change in the number of daily employee trips to the project site. There would be a slight increase in fuel and electricity associated with periodic maintenance of the solar facility and algae replacement system, but this would occur no more than 12 times a year. Solids from the algae removal system would also be periodically hauled to a landfill. These trips would be necessary and routine, and would not result in wasteful or inefficient use of fuel.

For the above reasons, this impact would be ***less-than-significant impact***.

b. The Proposed Project would comply with applicable energy-related policies and regulations. In addition, the Proposed Project would promote State efforts to increase the use of renewable energy by installing a solar facility. Therefore, this would be a ***less-than-significant impact***.

Issues		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than Significant Impact	No Impact
7.	**GEOLOGY AND SOILS.** *Would the project:*				
a.	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i.	Rupture of a known earthquake fault, as delineated on the most recent Alquist - Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	■	☐
ii.	Strong seismic ground shaking?	☐	☐	■	☐
iii.	Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
iv.	Landslides?	☐	☐	■	☐
b.	Result in substantial soil erosion, or the loss of topsoil?	☐	☐	■	☐
c.	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	■	☐
d.	Be located on expansive soils, as defined in Table 18-1-13 of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	■	☐
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	■	☐
f)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	■	☐	☐

Discussion

a.i-iv, c., d. Like much of California, the City of Colfax is subject to seismic activity, although the risk associated with seismic hazards is low, due to the distance between developed areas and active earthquake faults. The Alquist-Priolo Earthquake Fault Zoning Act requires the delineation of zones by the California Department of Conservation, Geological Survey along sufficiently active and well-defined faults. The purpose of the Act is to restrict construction of structures intended for human occupancy along traces of known active faults. Alquist-Priolo Zones are designated areas most likely to experience surface fault rupture, although fault rupture is not necessarily restricted to those specifically zoned areas.

Colfax has not been identified as a city that would be affected by the Alquist-Priolo Act. Rupture of the surface has not resulted from faulting associated with earthquakes in Colfax or Placer County. The most recent listing of Earthquake Fault Zones under the Alquist-Priolo Earthquake Fault Zoning Act does not include either the City of Colfax or Placer County[14], and ground rupture is unlikely at the project site. The project site is not located on or immediately adjacent to a known active fault. Therefore, the project site would not be subject to fault rupture.

The City of Colfax is in an area where the level of earthquake hazard is relatively low, so the intensity of ground shaking would be less than in areas with stronger seismic activities. In Colfax, only weaker, masonry buildings are expected to experience damage, although very infrequent earthquakes could cause stronger shaking.[15] The Proposed Project would not construct any occupied buildings, so there would be no risk to human life or property due to building collapse. The Proposed Project components would be built to seismic standards to ensure that they could withstand the amount of ground shaking expected to occur within the Colfax area during an earthquake, so there would be minimal risk of damage to the pipelines, algae removal system or solar panels.

Liquefaction is a phenomenon whereby granular soil (i.e., silt and sand) is transformed from a solid state into a liquid state (quicksand) as a result of an increase in pore-water pressure due to an earthquake. Liquefaction would most likely occur in water-saturated silts, and in sands and gravels having low to medium density. The areas of Colfax that are most susceptible to liquefaction would be streambeds and sloped exposures.[16] For the most part, the sewer pipeline upgrades would occur in areas that are relatively flat, and outside of streambeds. There are some places where pipelines would be located in or near small drainages. The solar facility would be installed on a hillside above the WWTP. These areas could be subject to some amount of ground failure during an earthquake. However, all project components would be built to State, City and engineering design standards, including seismic standards. This would minimize the likelihood that project components would be damaged and/or that service would be disrupted in the event of an earthquake.

Geologic and soil conditions can vary from site to site. Soil characteristics, such as expansive soils, which increase and decrease in volume in response to changes in water

14 California Department of Conservation, *Alquist-Priolo Earthquake Fault* Zones, https://maps.conservation.ca.gov/cgs/EQZApp/app/. Accessed June 9, 2020.

15 California Department of Conservation, *Earthquake Shaking Potential for California*, 2016, accessed at https://www.conservation.ca.gov/cgs/Documents/Publications/Map-Sheets/MS_048.pdf, June 9, 2020.

16 City of Colfax, *General Plan 2020*, September 22, 1998, page 7-3.

content, could create a geologic hazard. Areas with steep slopes, such as the solar facility site, can be subject to landslides under certain conditions. A geotechnical report will be prepared for the project components, and will identify the soil types and geologic conditions that occur in the areas where project construction would occur. The geotechnical report will also include standards to ensure that project construction addresses these conditions, including expansive soils, slope failure and liquefaction.

Because the Proposed Project would be designed and constructed to appropriate seismic and geotechnical standards, the risks associated with seismic activity and soils and geologic constraints would be ***less than significant.***

b. Earth disturbing activities could result in erosion during construction. However, as discussed in Item 10(a)(ci)(d), below, the Proposed Project would be required to obtain and comply with the State General Construction Activity Stormwater Permit, which requires use of Best Management Practices (BMPs) to prevent eroded soils and other contaminants from entering surface waters. Because project construction would be required to comply with erosion reduction and sediment control measures, it would not result in substantial erosion. Therefore, this is a ***less-than-significant impact.***

e. The Proposed Project would not provide a new or alter an existing septic system. Therefore, ***no impact*** would occur.

f. The majority of the project site is underlain by the Mariposa Formation, which was formed on the bottom of the sea during the Jurassic period.[17] Although no fossil specimens have been reported in this formation in Placer County, it has yielded fossils in the California foothills[18]. Portions of the project site are underlain by Mehrten formation, which has yielded fossils in Placer County.[19] No fossil specimens were reported in the City of Colfax.

Because the project site is underlain by geologic formations that are known to contain fossils in areas outside of the City, fossils could be present. However, most project construction would occur in areas that have already been disturbed and/or excavated. For example, the sewer pipeline upgrades would occur within the existing sewer alignments and at similar depths. If fossils had been present in these areas, they were likely displaced by construction of the existing sewer lines and surrounding development. Similarly, the algae removal system will be installed within the disturbed portions of the WWTP, so it is unlikely to encounter any fossils. The solar facility would require vegetation removal on an undisturbed site, but only minor grading and excavation. Nonetheless, if fossils are present, then project construction could result in their damage or destruction, which would be considered a significant impact. Mitigation Measure 5 would reduce this impact to a ***less-than-significant*** level by ensuring that if fossils are encountered, all construction activities in the vicinity of the find are halted until the find is evaluated and recovered if warranted.

Mitigation Measure 5

5(a) A worker education program prepared by a qualified professional paleontologist shall be distributed to all project construction workers who

17 California Department of Conservation, Division of Mines and Geology, *Geologic Map of Placer County*, 1995.
18 UC Museum of Paleontology Specimens Online Search, June 10, 2020.
19 Placer County, *Placer County Conservation Program Draft Environmental Impact Statement/Environmental Impact Report*, *Public Draft*, December 2018, page 3.4-17.

could be involved in ground disturbance. The program shall include review of applicable local, state, and federal ordinances, laws, and regulations pertaining to paleontological resources; description of the types of fossils that can be encountered and their general appearance; and discussion of site avoidance requirements and notification procedures to be followed in the event that a sensitive paleontological resource is found during construction.

5(b) *If paleontological resources (i.e., fossils) are discovered during ground disturbing activities, work shall be halted within 50 feet of the find and a qualified paleontologist shall evaluate the find. If the find meets Society of Vertebrate Paleontology criteria, additional examination and the resource cannot be avoided, additional data recovery excavation shall be undertaken.*

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

Discussion

The analysis of air pollutant emissions from the Proposed Project was prepared by ESA, and is documented in a May 2020 memorandum, *Air Quality and Greenhouse Gas Analysis for the Colfax Solar and Pipeline Project.* Technical support for the analysis is provided in Appendix A.

Gases that trap heat in the atmosphere are called greenhouse gasses (GHG). The main concern with GHGs is that increases in GHG concentrations in the Earth's atmosphere is causing global climate change. Global climate change is a change in the average weather on Earth that can be measured by wind patterns, storms, precipitation, and temperature.

The principal GHGs are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), perfluorocarbons (PFCs), and hydrofluorocarbons (HFCs). Because different GHGs have different Global Warming Potentials (GWPs) and CO_2 is the most common reference gas for climate change, GHG emissions are often quantified and reported as CO_2 equivalents (CO_2e). For example, SF_6 is a GHG commonly used in the utility industry as an insulating gas in circuit breakers and other electronic equipment. SF_6, while comprising a small fraction of the total GHGs emitted annually world-wide, is a very potent GHG with 22,800 times the GWP as CO_2. Therefore, an emission of one metric ton (MT) of SF_6 could be reported as an emission of 22,800 MT of CO_2e (MT CO_2e.[20] Large emission sources are reported in million metric tons (MMT) of CO_2e.[21]

Global warming can affect California by reducing snow pack, and increasing sea level rise, the number of extreme heat days per year, high ozone days, wildfires, and drought years. Globally, climate change has the potential to affect numerous environmental resources through changes related to future air and ocean temperatures and precipitation patterns. The anticipated effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects[22]:

20 Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)], 2007.

21 A metric ton is 1,000 kilograms; it is equal to approximately 1.1 U.S. tons and approximately 2,204.6 pounds.

22 Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2001: Working Group I: The Scientific*

- Higher maximum temperatures and more hot days over nearly all land areas;
- Higher minimum temperatures, fewer cold days and frost days over nearly all land areas;
- Reduced diurnal temperature range over most land areas;
- Increase of heat index over land areas; and
- More intense precipitation events.

Also, there are many secondary effects that are projected to result from global warming, including global rise in sea level, ocean acidification, impacts on agriculture, changes in disease vectors, and changes in habitat and biodiversity. While the possible outcomes and the feedback mechanisms involved are not fully understood and much research remains to be done, the potential for substantial environmental, social, and economic consequences over the long term could be great.

a. The Proposed Project would emit GHG during construction, particularly from the use of equipment and vehicles, and during operation from electricity use, vehicles, water use and solid waste. In the case of the Proposed Project, GHG emissions would be offset by the installation of the solar facility, because solar energy would replace energy sources that emit GHG during the production of electricity.

Construction

Construction emissions for the Proposed Project were estimated using the most recent version of the California Emissions Estimator Model (CalEEMod), version 2016.3.2, and California Emissions Factor Model (EMFAC), as applicable. Modeling was based on project-specific data, where available. Where project-specific information was not available default model settings and/or reasonable assumptions based on other similar projects were used to estimate criteria pollutant emissions. The GHG analysis uses the same modeling assumptions as was used to quantify the air quality emissions. Modeling assumptions, calculations, and data output files are provided in Attachments A, B, and C of Appendix A.

The Proposed Project's estimated GHG emissions during construction would result in a total of 215 MT CO_2e over the entire construction timeframe. This results in a 7 MT CO_2e amortized emissions. Amortized emissions divide the total construction emissions for a project by an anticipated 30-year project lifetime (the length of time the Proposed Project would be operational). Because GHG impacts are cumulative in nature, the amortized construction emissions are added to the annual operational emissions to provide a total annual emissions estimate. The total emissions estimate is then compared to the threshold, shown in Table 3-6 below. Assumptions and modeling output are included in Attachments A and B of Appendix A.

Operation

The Proposed Project would generate GHG emissions from vehicle usage, energy and water consumption from the maintenance activities, and waste generated from the algae removal system. The same assumptions that were used in the operational air quality emissions quantifications were used to generate operational GHG emissions. Modeling assumptions, calculations, and data output files are provided in Attachments A, B, and C of Appendix A.

Basis, 2001.

TABLE 3-6
Unmitigated Project GHG Emissions (MT/yr)

	CO_2e
Amortized Construction	7
Operational Emissions	
Area	<1
Energy	2
Mobile	12
Waste	10
Water	<1
Total Operational	24
Maximum Project Generated Emissions	31
Maximum Project Offset Emissions	(278)
Net Project Emissions	(247)
De Minimis Threshold	1,100
Exceeds Threshold	**No**

Values are rounded to the nearest whole number and therefore values may not add directly. Parenthetical represents negative value.
MT/yr=Metric Tons per Year
Source:
ESA 2020. (See Attachments A and B).

Annual emissions from the project operation are provided in Table 3-6. As shown the Proposed Project's total estimated GHG emissions, including amortized construction emissions, would result in 31 $MTCO_2e$/year. These emissions would not exceed the de Minimis threshold of 1,100 $MTCO_2e$ identified by the PCAPCD.

Additionally, the operation of the 750 kW solar facility would generate renewable energy that would offset the GHG emissions from the Proposed Project. The project would result in 1 million kWhs of renewably generated electricity. This would result in the offset of 278 $MTCO_2e$ annually, resulting in a net reduction in GHG emissions of 247 $MTCO_2e$ annually from the implementation of the Proposed Project. Therefore, the Proposed Project would result in a beneficial impact with respect to GHG emissions.

Because project GHG would not exceed the de minimus threshold, this impact would be ***less than significant.***

b. The City of Colfax has not developed a Climate Action Plan regarding the reduction of GHG emissions. The applicable plan, policy or regulation adopted for the purpose of reducing the GHG emissions are the State Scoping Plan, Senate Bill 100 and Executive Order S-3-05. As discussed below, the Proposed Project would be consistent with these statewide efforts to reduce GHG.

2017 Scoping Plan Update
According to the 2017 Scoping Plan Update, reductions needed to achieve the State's 2030 GHG target are expected to be achieved by increasing the Renewable Portfolio

Standard (RPS) to 50 percent of the State's electricity by 2030; greatly increasing the fuel economy of vehicles and the number of zero-emission or hybrid vehicles; reducing the rate of growth in VMT; supporting high speed rail and other alternative transportation options; and increasing the use of high efficiency appliances, water heaters, and HVAC systems. The Proposed Project would not impede implementation of these potential reduction strategies, because it would generate only a small increase in VMT due to periodic maintenance of the solar facility. The Proposed Project's vehicle-related GHG emissions would decrease over time as the result of statewide efforts to increase the fuel economy standards of vehicles and to reduce the carbon content of fuels. The Proposed Project would indirectly support the achievement of the RPS goal by constructing a solar facility, which would offset the emissions from sewer/wastewater treatment activities by reducing the need for utility-generated renewable energy to cover a portion of the Agency's requirements. As discussed in Item 8.a, Proposed Project emissions would be completely offset by the solar facility. For these reasons, the project emissions trajectory would decline over time, consistent with the 2017 Scoping Plan Update.

SB 100 (De León) (Chapter 312, Statutes of 2018)
In 2018, SB 100 established that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by the end of 2045. SB 100 also creates new standards for the RPS, increasing required energy from renewable sources for both investor-owned utilities and publicly-owned utilities from 50 percent to 60 percent by the end of 2030. Incrementally, these energy providers must also have a renewable energy supply of 44 percent by the end of 2024, and 52 percent by the end of 2027. As discussed above, the Proposed Project will indirectly support the achievement of this goal by constructing a solar facility.

Executive Order S-3-05
Executive Order No. S-3-05 established a long-term goal of reducing California's GHG emissions to 80 percent below the 1990 level by the year 2050. The extent to which GHG emissions from mobile sources indirectly attributed to the Proposed Project would change in the future depends on the quantity (e.g., number of vehicles, average daily mileage) and quality (i.e., carbon content) of fuel that would be available and required to meet both regulatory standards, and resident and worker needs.

Renewable power requirements, low carbon fuel standards and vehicle emissions standards, discussed above, would decrease GHG emissions per unit of energy delivered per VMT. Statewide efforts are underway to facilitate the achievement of the EO S-3-05 goals. It is reasonable to expect the GHG emissions from project operations would decline over time, as the regulatory initiatives identified by CARB in the 2017 Scoping Plan Update are implemented, and other technological innovations occur. Given the renewable electricity that would be provided by the Proposed Project and the reasonably anticipated decline in project emissions as mobile sources become more efficient, the Proposed Project would not conflict with or interfere with the ability of the State to achieve the 2050 horizon-year goal of EO S-3-05. In fact, the Proposed Project would foster the ability for the State to achieve the EO S-3-05 goals.

For the above reasons, the Proposed Project would not conflict with plans developed for the reduction of GHG emissions. Therefore, the Proposed Project impact would be ***less than significant***.

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

Discussion

a. Operation of the WWTP currently requires use of chemicals for treatment processes and

maintenance. For example, sodium hypochlorite is used for chlorination and sodium bisulfite is used for decholorination.[23] In addition, small quantities of diesel fuel, waste oil, lubricants and paint are used at the plant.

The construction and operation of the Proposed Project would involve the use of a variety of hazardous materials, although not at levels that would pose a substantial threat to people or the environment. During construction, oil, diesel fuel, gasoline, hydraulic fluid, and other liquid hazardous materials would be used. After construction, the pipelines would not result in the additional use of chemicals. The Proposed Project would not increase the amount of wastewater treated at the plant, so the current use of treatment chemicals would continue there. Depending on the type of algae removal system that is installed, a surfactant could be used. There would also be a small increase in the use of lubricants and other chemicals needed for maintenance of the algae control system and the solar facility. Cleaning fluids would also be used up to 12 times a year to clean the solar panels. The total amount of chemicals that would be stored and used onsite would be relatively small. Nonetheless, if spilled during transport, storage or use, these substances could pose a risk to the environment or human health.

There are extensive laws and regulations in place to govern the use and storage of hazardous materials including, but not limited to, Chapter 6.95 of the California Health and Safety Code (inventory and emergency response), Title 8 of the Code of California Regulations (CCR) (workplace safety), and Titles 22 and 26 of the CCR (hazardous waste). Delivery of hazardous materials to the site and along public roadways would be required to comply with Title 49 of the Federal Code of Federal Regulations (CFR), as monitored and enforced by the California Highway Patrol (CHP) and California Department of Transportation (Caltrans). In addition, storage of all flammable materials at construction sites would be subject to the regulations of Title 19 of the CCR and the Uniform Fire Code. In addition, as discussed in Item 8(a)(c)(f), below, contractors would have to prepare Stormwater Pollution Prevention Plans that ensure that soil and contaminants do not enter surface waters.

Cal-OSHA assumes primary responsibility for developing and enforcing standards for safe workplaces and work practices within the state. At sites known to be contaminated, a site safety plan must be prepared to protect workers. The site safety plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

Compliance with existing laws and regulations would ensure that the risk of release of hazardous materials into the environment would be minimized, and if a spill or other release did occur, it would be managed appropriately to protect people and the environment. Therefore, potential exposure of people or the environment to hazardous materials associated with the Proposed Project would be a ***less-than-significant impact***.

b., d. No properties in the City of Colfax are on the Cortese List.[24] A search of a Department of Toxic Substances database shows a number of leaking underground storage tanks

23 City of Colfax, *Wastewater Treatment Plant Improvements Project Draft Environmental Impact Report*, July 16, 2004, page 3-33.

24 State of California, Department of Toxic Substances Control, *Hazardous Waste and Substances List (Cortese List)*, *https://gis-california.opendata.arcgis.com/maps/edit?content=DTSC%3A%3Adtsc-hazardous-waste-and-*

(LUST) within the city limits, but most of these sites are closed, indicating that there is no longer a risk of contamination. Two sites, a gas station and a railroad fuel sump, are still open, but under verification monitoring, indicating that remediation has occurred. There are no active cases of leaking underground storage tanks.[25] The only landfill that is in current operation in the City is the Colfax landfill[26]. None of the Proposed Project components would be located in the vicinity of this landfill.

Although no other contaminated or potentially contaminated sites have been identified in the records search, there could be contamination present in areas that were occupied by facilities that used hazardous materials in the past, prior to current regulatory levels. If present, such contamination could appear as darkened soil, or abandoned containers. Exposure to contaminated soils, if present, could harm construction workers, which would be a significant impact. Implementation of the following mitigation measure would reduce the potential risk of exposure to a ***less-than-significant*** level by ensuring that contaminated groundwater or soils, if present, are identified and remediated promptly.

Mitigation Measure 6

In the event previously unidentified hazardous materials contamination is discovered or believed to be present, work shall stop immediately and the site shall be investigated by a qualified professional. If contaminated, the area shall be remediated by a qualified professional, in consultation with Placer County Environmental Health Division, the Regional Water Quality Control Board and/or the California Department of Toxics Substances Control, as appropriate. Work shall not resume until potential hazards have been identified and managed.

c. The sewer lines extend throughout the City and serve several schools, including Colfax Elementary School and Colfax High School. Upgrading the pipelines would not expose people at the schools to hazardous materials. As discussed in Item 9a.b, above, the only hazardous materials in use during construction would be fuels, which would not pose a substantial risk. There are no schools located within one-quarter mile of the WWTP site, where the solar facility nor the algae removal system would be located. For these reasons, this would be a ***less-than-significant impact.***

e. The airport closest to the City of Colfax is at Alta Sierra, over 5 miles to the west of the City. Therefore, there would be ***no impact.***

f. During sewer pipeline upgrades, there may be some lane and/or roadway closures, because most of the City's pipelines are located in streets or rights of way. These closures would be for short durations and detours would be provided. There would be no permanent changes to existing emergency access, nor would the implementation of future emergency plans be prevented. Therefore, the impact would be ***less than significant***.

g. The Proposed Project would not construct any new buildings or increase the number of people living and working in Colfax on a permanent basis, so it would not increase the

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*substances-site-list-cortese-list*accessed June 10, 2020.

25 State of California Water Resources Quality Control Board, GeoTracker, https://www.envirostor.dtsc.ca.gov/public/map/?global_id=60001156, accessed June 10, 2020.

26 State of California Water Resources Quality Control Board, GeoTracker, https://www.envirostor.dtsc.ca.gov/public/map/?global_id=60001156, accessed June 10, 2020.

number of people or buildings at risk of being exposed to wildfire. With respect to the potential for the Proposed Project to increase the risk of wildfire, please see Item 20.

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

Discussion

a., c-iv., e. **Construction**

Grading and excavation activities can expose soil to increased rates of erosion during construction periods. If this results in increased turbidity in local waterways and rivers, it could have adverse effects on fish and wildlife habitat and other established beneficial uses. Grading for the Proposed Project would occur during the dry season, so the potential for runoff to due rainfall would be minimized. In addition, because the Proposed Project would disturb more than one acre of land, contractors would be required to obtain and comply with the State General Construction Activity Stormwater Permit. Performance standards for obtaining and complying with the General Permit are described in NPDES General Permit No. CAS000002, Waste Discharge Requirements, Order No. 2009-0009-DWQ. The General Permit is intended to ensure compliance with State water quality objectives and water protection laws and regulations, including those related to waste discharges.

General Permit applicants are required to prepare a stormwater pollution prevention plan (SWPPP), and retain it at the construction site. The SWPPP will address project construction, and specify control measures and BMPs designed to minimize sedimentation and release of products used during construction into surface waters. As discussed in Chapter 2, Project Description, it is anticipated that BMPs for the Proposed Project will include, at a minimum, the following measures:

- Installation of straw mulch, hydraulic mulch, hydroseed and/or erosion control blankets in disturbed areas;
- Installation of sediment control measures in areas with moderate to high potential for erosion, such as silt fence, straw wattles, gravel bag check dams and sediment traps;
- Drain inlet protection to filter out construction debris so it does not enter the drainage system;
- Installation of sediment control measures in areas with moderate to high potential for erosion, such as silt fence, straw wattles, gravel bag check dams and sediment traps;
- Revegetation of disturbed areas with plants similar to those present prior to disturbance; and
- Mulching.

The General Permit requires permittees to implement specific sampling and analytical procedures to determine whether the BMPs used at the construction site are effective. In addition, post construction standards must be met. Finally, project construction would comply with the City's Grading, Erosion and Sediment Control Ordinance (Chapter 15.30 of the Municipal Code), which specifies measures to control erosion and sediment (Section 15.30.0614). With implementation of these State and City requirements, construction impacts would be ***less than significant***, because water quality would be protected through the permitting process.

Operation

The Proposed Project would not alter any drainages or substantially increase the amount of impervious surface in the project area. None of the project components would extend into a floodway. After construction, the sewer pipelines would be

underground, and the surface would be returned to its previous condition. The sewer upgrades would not alter the amount of impervious surface in the project area, so there would not be an increase in runoff, or of urban contaminants in stormwater.

The algae removal system would improve operational efficiency at the WWTP. The WWTP operates under NPDES permit No. CA0079529 and under the Central Valley Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements Order No. R5-2018-0012, which expires on May 31, 2023 (but is subject to reissuance). This permit limits the amount of discharge from the WWTP allowed to enter surface waters (the Smuthers Ravine, which flows into the North Fork of the American River) and sets standards for various constituents in WWTP effluent, such as ammonia and total suspended solids. The algae removal system is not expected to adversely affect the effluent, so the WWTP would continue to comply with the WDR standards for water quality.[27]

The solar panels would be placed on posts, which would not substantially increase the amount of impervious surface. Runoff from the solar panels (with approximately 5,300 square feet of total surface area) would fall to the ground and either be absorbed or drain to the WWTP's drainage system, similar to existing conditions. The panels would not contain surface contaminants (such as fuel on a roadway) that would be picked up by stormwater.

For the above reasons, the Proposed Project would not alter or exceed existing drainages and stormwater runoff systems, increase the amount of stormwater entering the local system and/or result in erosion or urban contaminants flowing into drainages or the local stormwater system. Therefore, this impact would be ***less than significant.***

b. The Proposed Project would not use any groundwater, or alter groundwater recharge conditions. Therefore, there would be ***no impact***.

d. A seiche is a periodic oscillation of a lake or other enclosed body of water typically brought about by an earthquake or wind event. There are no lakes or other enclosed water bodies in or near the project site, so there is no potential for a seiche to occur there. The project site is not located in an area in which a tsunami could directly or indirectly affect project components. The project site is not located in a defined 100-year floodplain.[28] None of the project components would extend into a floodway. For these reasons, the Proposed Project would not release contaminants as the result of a flood hazard or tsunami or seiche events, and there would be ***no impact***.

27 Wood Rodgers, Inc., *Colfax Project Report, Sewer Collection System and Wastewater Treatment Plant Improvements,* March 2020, page 7.

28 National Flood Insurance Program, *Flood Insurance Rate Map, Map Number 06061C0500H*, November 2, 2018.

Issues		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than Significant Impact	No Impact
11.	**LAND USE AND PLANNING.** *Would the project:*				
	a. Physically divide an established community?	☐	☐	☐	■
	b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	■	☐

Discussion

a. The Proposed Project would not divide the community. The sewer line upgrades would occur entirely in existing pipeline alignments, and after replacement, the lines would be underground. The solar facility and algae removal system would be located within the existing WWTP site. Therefore, ***no impact*** would occur.

b. The Proposed Project would be consistent with the City's General Plan. The sewer pipeline replacement would occur along existing alignments, and would continue to serve existing land uses. The WWTP site is designated Special Public Service District (SPSD), which allows for, among other uses, wastewater treatment. Both the solar facility and algae removal system would support WWTP operations. With implementation of the mitigation measures identified in the this Initial Study, and compliance with applicable regulations regarding air quality, biological resources, cultural resources, greenhouse gases, water quality and so on, the Proposed Project would be consistent with the General Plan policies that address natural resources. For these reasons, this would be a ***less-than-significant impact***.

Issues	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than Significant Impact	No Impact
12. MINERAL RESOURCES. *Would the project:*				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	■	☐
b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	■

Discussion

a. There are no active mines reported in the City of Colfax[29]. However, the WWTP site is part of a 160-acre area known as the W.L. Harvey Clay/Shale Deposit. This site was evaluated by the California Division of Mines and Geology in 1985 and classified MRZ-2a and MRZ-2b. The MRZ-2a zone is applied to areas where there is adequate information to indicate that significant mineral deposits are present and/or where there is a high likelihood of such deposits. The MRZ-2b zone is applied to areas where there is adequate information to indicate that significant inferred mineral resources are present. Approximately 49 acres in the northwest portion of the 160-acre site are designated MRZ-2a; the remainder of the site is designated MRZ-2b.[30] The WWTP falls within the portion designated MRZ-2b. The classifications were based on field investigation, geologic literature and material that was removed for testing purposes.[31] Based on this information, it was determined that a shale deposit was present, although the size and configuration of the deposit was undetermined.[32] It does not appear that the site was subsequently mined. The WWTP has been at this site since 1978.

The only project component that would affect access to mineral resources would be the solar facility. The sewer line upgrades would not occur in an area designated as a mineral resource, and would occur in areas that already contain utility lines, and in most cases streets or other development. The algae removal system would be located within portions of the WWTP that have already been disturbed. The solar facility would be located on approximately 2 acres in a portion of the WWTP that is relatively undisturbed, thereby precluding the extraction of the shale resources that could be present, at least for the foreseeable future. However, because the solar facility would be entirely within the WWTP site, it is unlikely that it would be mined in any case. Further, the area that

29 California Division of Mine Reclamation, *Mines Online*, accessed at https://maps.conservation.ca.gov/mol/index.html, June 4, 2020.

30 California Department of Conservation, Department of Mines and Geology, *Mineral Land Classification of the W.L. Harvey Clay/Shale Deposits, Placer County, California*, 1985, Figure 4, page 13.

31 California Department of Conservation, Department of Mines and Geology, *Mineral Land Classification of the W.L. Harvey Clay/Shale Deposits, Placer County, California*, 1985, Figure 4, page 11.

32 California Department of Conservation, Department of Mines and Geology, *Mineral Land Classification of the W.L. Harvey Clay/Shale Deposits, Placer County, California*, 1985, Figure 4, page 11.

would be rendered inaccessible for mining would be only a small portion of the entire MRZ-2 zone (approximately 1.25 percent). For these reasons, the loss of access to the existing shale deposit in this location would be a ***less-than-significant impact***.

b. The project site is not delineated as a locally-important mineral resource recovery site in the County's General Plan. Therefore, ***no impact*** would occur.

Issues		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than Significant Impact	No Impact
13.	**NOISE.** *Would the project result in:*				
a.	Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	■	☐
b.	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c.	For a project located within the vicinity of a private airstrip 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?	☐	☐	☐	■

Discussion

a. Construction of the Proposed Project would generate noise from heavy equipment and vehicles. Most of the sewer line upgrades would be in developed areas, often in proximity to residences. However, construction activities would occur only during the day, when noise is less likely to interrupt activities such as sleeping and watching TV. Further, construction activities in any one part of the sewer alignment would be brief. The Proposed Project would comply with Chapter 8.28 (Noise Ordinance) of the City's Municipal Code, which limits the days and hours when construction can occur, and restricts noise levels on Saturday and Sunday. With compliance with the Noise Ordinance, the sewer line upgrades would not result in noise that exceeds City standards and/or that creates a substantial nuisance for residents and other noise-sensitive uses.

The WWTP site is fairly isolated, and there are no residences or other noise-sensitive uses adjacent to it. The closest home is over 500 feet from the site where the solar facility would be constructed. During construction, noise from project construction would be buffered by distance, topography and vegetation. As discussed above, construction would be limited to daytime, and would be a temporary activity (approximately 6 weeks to construct the solar facility and 4 weeks to construct the algae removal system). All project construction would comply with the City's noise ordinance.

After construction is complete, there would be no noise associated with the sewer pipelines. Minor mechanical noise could occur at the solar and algae control facilities,

but such noise would be minor and part of routine noise levels within the WWTP site. The only project traffic would be periodic (12 times per year at most) trips to the WWTP to clean the solar panels. The cleaning process could be audible, but would occur infrequently. As with construction, distance, topography and vegetation would buffer noise levels at nearby properties.

For the above reasons, project noise would be a ***less-than-significant impact.***

b,. Heavy construction equipment can generate localized groundborne vibration at buildings adjacent to the construction site, especially during the operation of high-impact equipment, such as pile drivers. If vibration levels are high enough, they can be disruptive to human activity and/or damage structures, particularly older buildings. Caltrans has developed recommendations for vibration levels as shown in Table 3-7.

Table 3-7
Caltrans Guideline Vibration Damage Potential Threshold Criteria

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

Source: Caltrans, *Transportation and Construction Vibration Guidance Manual,* September 2013, Table 19.

The sewer pipeline upgrades would occur in proximity to existing residences and other building, including older buildings in the downtown. These buildings could be susceptible to damage if exposed to high vibration levels. There are no buildings close enough the to WWTP site to be affected by construction-related vibration.

The type of equipment used to construct the Proposed Project would include backhoes, jack hammers, haul trucks, paving equipment, pumps and sweepers/scrubbers. These would not be expected to exceed the standards shown in Table 3-7. For example, a large bulldozer could generate 0.089 PPV (in/sec) at 25 feet. A jackhammer would generate only 0.035 PPV (in/sec) at 25 feet. These levels would be well below the thresholds for the types of buildings that would be found in the project area (e.g., historic and old buildings, older residential structures, new residences and modern commercial buildings). These vibration levels would also be below the level that is considered "strongly perceptible" by people—0.9 PPV (in/sec) for transient sources and 0.10 PPV (in/sec) for continuous, frequent or intermittent sources.[33]

Further, as discussed above, construction of the sewer line upgrades would not be in

33 Caltrans, *Transportation and Construction Vibration Guidance Manual,* September 2013, page 38, Table 20.

any one location for extended periods of time, so exposure to vibration from construction equipment at any one building would brief.

For these reasons, vibration resulting from project construction would be a ***less-than-significant impact.***

c. The project site is not located in the vicinity of a public or private airstrip. Therefore, there would be ***no impact***.

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

Discussion

a. The Proposed Project would not extend sewer lines into undeveloped areas, so they would not open new areas to growth. The sewer line upgrades and algae removal system would improve the efficiency of the WWTP, indirectly increasing plant capacity. However, the WWTP is sized to accommodate projected growth in the City of Colfax, and any new development would need to be consistent with the City's General Plan, and would be subject to CEQA and City approval. Therefore, the impact on potential future growth would be ***less than significant***.

b. The Proposed Project would not remove any housing, so it would not displace existing people or housing. Therefore, there would be ***no impact***.

Issues		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than Significant Impact	No Impact
15.	**PUBLIC SERVICES** *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*				
a.	Fire protection?	☐	☐	■	☐
b.	Police protection?	☐	☐	☐	■
c.	Schools?	☐	☐	☐	■
d.	Parks?	☐	☐	■	☐
e.	Other public facilities?	☐	☐	☐	■

Discussion

a. Fire protection in the City of Colfax is provided by two fire stations--the Colfax Fire Department, located at 33 West Church Street, an the Colfax Station, located at 24020 Fowler Avenue. The Fowler Avenue station is operated by Cal Fire during fire season and Placer County Fire during winter season. This station is closest to the WWTP site. Other agencies that support the City with mutual aide are the Placer Hills Fire District in Meadow Vista and the Chicago Park/Peardale Fire Departments.

Certain construction activities, such as use of heavy equipment and welding, have the potential to ignite fires. However, most construction activities would occur within developed areas, including streets, where there is little or no vegetation that would sustain a fire. The solar facility site would be cleared of trees and vegetation prior to construction. Further, the contractor would comply with Cal-OSHA standards for the storage and handling of fuels, flammable materials, and common construction-related hazardous materials and for fire prevention. For these reasons, the Proposed Project is not expected to ignite a fire during construction.

When construction is complete, the Proposed Project would not increase demand for fire protection services, because it would not result in an increase in new residential or other development. Nor would the Proposed Project increase the risk of fire occurring. The sewer pipeline after construction would be subsurface, and therefore not subject to or the cause of fires. The algae removal system would be located within the developed portion of the WWTP site. The Solar facility would reduce the amount of fuel available for fire by clearing a 2-acre site on the hillside within the WWTP site. Solar panels are manufactured from fire-resistant materials. All electrical equipment and wiring would be installed in compliance with electrical codes, which include measures to minimize the risk of fire. For these reasons, impacts associated with fire protection would be ***less than significant***.

b. The City of Colfax contracts its law enforcement needs through the Placer County Sheriff's Office at 10 Culver Street. The Colfax Substation is staffed by a Sergeant, four City dedicated deputies, two resident deputies and senior volunteers. The main Placer County Sheriff's Office at 2929 Richardson Drive in Auburn. The nearest California Highway Patrol station is in the town of Gold Run and their units are available to Colfax. The Proposed Project would not alter the service area for law enforcement, and would not result in additional residential, commercial or other development, so it would not increase demand for law enforcement services. Therefore, there would be ***no impact.***

c. There are two public schools in Colfax—Colfax Elementary School, which serves kindergarten through eight grade students, and Colfax High School. Both schools are located west of the area where sewer lines would be subject to replacement, and would therefore not be subject to disruption during project construction. The schools are located over two miles from the WWTP, so would be unaffected by the solar and algae control facilities. The Proposed Project would not change the population of Colfax, so school enrollments would be unaffected. For these reasons, there would be ***no impact*** on schools.

d. The City of Colfax owns 3.26 acres of parkland, including the Colfax Ball Park Complex, Roy Toms Plaza, the Depot Park and Arbor Park. One or more of the sewer line segments that are upgraded could be located near a park site, which could lead to disruptions in park activities during construction. However, such disruptions would be temporary. Further, the parks would not be altered by the Proposed Project. Therefore, the impact on parks would be ***less than significant.***

e. No other public facilities that could be affected by the Proposed Project have been identified. Therefore, there would be ***no impact.***

Issues		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than Significant Impact	No Impact
16.	**RECREATION.**				
a.	Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	■
b.	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	■

Discussion

a,b. As stated in Item 15d, the Proposed Project would not occur within parkland. No recreational facilities are located within the project site. The Proposed Project would not increase the population of the City, so demand for parks and recreation would be unchanged. Therefore, there would be ***no impact*** on recreational facilities.

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

Discussion

a-d. The replacement of sewer lines that are located in City streets and/or rights-of-way could affect local traffic and circulation, including bicycle, pedestrian and bus traffic. Such effects would be temporary, limited to the period of construction and the locations where pipeline segments are being replaced. Appropriate signage and detours would be provided where traffic could be interrupted. After construction is complete, the there would be no change to traffic patterns, bicycle and pedestrian facilities, or transit. Construction of and staging for the solar facility and the algae removal system would occur entirely within the WWTP site, so there would be no effect on traffic during or after construction of these facilities. For these reasons, impacts on transportation would be ***less than significant***.

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

Discussion

a., b. As discussed in detail under Item 5, no tribal cultural resources as defined in Public Resources Code Section 21074 have been identified within the project site. The City has received a request for consultation from the United Auburn Indian Community (UAIC), which is ongoing. To date, no tribal cultural resources have been identified within the project area. In addition, as discussed in Item 5, Cultural Resources, no prehistoric resources were identified in the project area. For these reasons, it is not anticipated that tribal cultural resources are present in the project area, and the impact would be ***less than significant*** with Mitigation Measures 4(a) and 4(b) (see Item 5).

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

Discussion

a. The Proposed Project would upgrade existing sewer lines, and would not construct new sewer lines. By eliminating inflow and infiltration of storm water, the sewer line upgrades would increase the capacity of the existing sewer system. The algae control system would improve the efficiency of the WWTP. The solar facility would be a new source of electrical energy, and its impacts are analyzed throughout this Initial Study. None of the project components would displace any existing utility infrastructure, or result in the need for additional infrastructure. Therefore, the impact on existing systems would be ***less than significant***.

b. Water service is provided to the City of Colfax by the Placer County Water Agency (PCWA). Colfax is in PCWA Zone 3, which is served by water purchased from PG&E by PCWA. PCWA operates a 1.24 million gallon per day (mgd) water treatment plant (WTP) in Colfax.[34] In 2015, PCWA provided 442 acre feet of treated water to customers in Zone 3.[35]

The Proposed Project could use water during construction for dust control. This would be a small temporary use. A small amount of water (up to 20,000 gallons per year) may be needed for cleaning and maintenance of the solar panels. This amount of water would be available through PCWA's existing water supplies, and would represent less than less than 1/10 of 1% of current treated water demand in Zone 3. Therefore, this impact would be ***less than significant***.

c. The Proposed Project would not generate any wastewater, but rather would increase the efficiency of the sewer system and WWTP operations. Therefore, there would be ***no impact.***

d., e. The sewer line upgrades and solar facility would not generate any waste after construction. The algae removal system would create approximately 20 tons per year of solids, which is equivalent to approximately 80 cubic yards. The solids would be stored in the dewatering dumpsters and periodically hauled to the Western Regional Sanitary Landfill (WRSL) in Roseville. The WRSL is currently permitted to receive up to 1,900 tons per day of waste, has a design capacity of 36,350,000 cubic yards, and is permitted to receive waste through January 2058.[36] The WRSL would have capacity to accept the additional waste from the Proposed Project. The Proposed Project would comply with applicable regulations regarding disposal of effluent solids. For these reasons, this impact would be ***less than significant.***

34 Placer County Water Agency, *2015 Urban Water Management Plan*, June 2, 2016, page 2-12.
35 Placer County Water Agency, *2015 Urban Water Management Plan*, June 2, 2016, page 4-17.
36 Solid Waste Facility Permit #31-AA-0210, December 11, 2012.

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

Discussion

The Plan Area is in a Local Responsibility Area, and not within or a State Responsibility Area. The project site is located in a very high fire hazard severity zone.[37]

a. The Proposed Project would be located entirely within the WWTP site (the solar and algae control facilities) or underground (the sewer lines), so there would be no effect on the movement of emergency vehicles. Further, the Proposed Project would not provide any housing or other occupied buildings. Therefore, there would be ***no impact*** on emergency or evacuation plans.

b. The Proposed Project would not have any occupants, so there would be ***no impact***.

c. The sewer lines would be located underground, primarily in existing streets and rights-of-way, and would therefore not be vulnerable to wildfire, or flooding or landslides resulting from fire. The solar facility would be located on a hillside adjacent to the developed

37 Cal Fire, *Very High Fire Hazard Severity Zones in LRA, November 28, 2008*.

portion of the WWTP. The algae removal system would be located within the existing WWTP facility. Both of these facilities could be reached by existing City roads and the WWTP roads, so no additional fire-related infrastructure would be required to implement any of the project components. Therefore, this impact would be ***less than significant***.

d. The WWTP site is not located in a 100-year floodplain, and neither the solar facility of the algae removal system would substantially alter any drainages. The algae removal system would be located in a flat area within the WWTP. The solar facility would be located in an area of relatively steep slopes (12 to 25 percent). As discussed in Item 7, the Geotechnical Investigation prepared for the solar facility will contain recommendations to ensure slope stability and adequate drainage. Post-construction, a fire in the vicinity of the project site would not be expected to alter the slope stability or drainage characteristics of the project site. Therefore, this impact would be ***less than significant***.

Issues		Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than Significant Impact	No Impact
21.	**MANDATORY FINDINGS OF SIGNIFICANCE.**				
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?	☐	■	☐	☐
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)?	☐	■	☐	☐
c.	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	■	☐

Discussion

a. As discussed under Item 4, Biological Resources, the project site does contain some potential habitat for several different special-status species. The existing habitat is fragmented and occurs in relatively small segments, because so much of the project site is developed. Implementation and mitigation measures identified in Item 4 would ensure that special-status species were not directly harmed. With mitigation, the habitat would not be substantially reduced, no species would be made to fall below a self-sustaining level, and the number and range of special status species would not be reduced. Although site surveys did not identify any existing cultural resources, there is the potential for archeological resources to be present below the surface. Implementation measures identified in Item 5 would ensure that significant historic and prehistoric resources are properly identified and treated. With implementation of identified

mitigation measures, impacts on biological and archaeological resources would be ***less than significant*.**

b. Cumulative impacts can occur when the incremental effects of an individual project are considered in the context of other projects, and when considered together the combined effects of those projects would compound or increase one or more impacts. Most of the impacts of the Proposed Project would occur during construction, and would be of short duration. Therefore, a cumulative impact could occur during the period of construction if other construction activities were to occur in the same area as the Proposed Project. For the sewer line upgrades, project construction activities would occur along the existing sewer alignments, most of which occur in areas that are already developed. There are several projects proposed or approved within the City that could occur in a similar timeframe to the Proposed Project. These include the Maidu Village, a commercial center on 8.4 acres located on South Auburn Street, the Sierra Oaks Estates, a 34-home subdivision located off of Iowa Hill Road at Forest Avenue, Village Oaks Community, a 13-acre project that would develop 39 single family homes off of Iowa Hill Road, the Auburn Street Hotel, a 69-room, 2-story hotel located at South Auburn Street, and the Whitcomb Avenue Office and Self-Storage Facility on a 3-acre site on Whitcomb Avenue.38 Portions of the existing sewer pipelines are located adjacent to each of these projects, so there is the potential for construction activities to occur simultaneously. There are no projects proposed or approved in proximity to the WWTP, so it is unlikely that it would contribute to cumulative construction impacts that are based on proximity to similar activities (e.g., construction noise). After construction, the sewer pipelines would be subsurface and the surface would be returned to its original condition. Therefore, the sewer pipeline would not contribute to cumulative impacts after construction. Operation of the solar facility and the algae control facility could occur, but would be limited to more regional cumulative impacts, such as air pollutant emissions, greenhouse gases and use of hazardous materials. As discussed in more detail below, while the Proposed Project could contribute to cumulative impacts in proximity to construction activities, and, in some cases, in the region, with mitigation identified in this Initial Study, the contribution would not be considerable.

The solar facility would result in the loss of approximately 2 acres of forestland and access to mineral resources (Items 2.d and e and 12). However, these resources are located within the City's WWTP, and would therefore be unlikely to be harvested as part of a larger forestry or mineral resource effort. Further, the loss of 2 acres of these resources in the context of existing forestlands and mineral resources in the county and region would be insignificant. Both construction and operational air emissions would be below the thresholds for standards for cumulative impacts (Item 3). As discussed in Item 4 the biological habitat within the project site is marginal and fragmented. The only special-status species that could occur within the areas to be disturbed are two plant species. Nesting birds could also be affected by project construction. Mitigation measures identified in Item 4 would protect the plant species and nesting birds so that there would not be a contribution to the cumulative loss of these species. No cultural resources were identified within the project site during surveys (see Item 5), but subsurface resources could be present and subject to disturbance during project grading and excavation. Similarly, the project site contains geologic formations that could contain fossils that, if present, could be destroyed during construction (Item 7).

38 City of Colfax, *Current Planning Projects*, accessed at http://colfax-ca.gov/government/planning/current-projects/, June 18, 2020.

Mitigation identified in Items 5 and 7 would ensure that such resources are uncovered, they would be identified, evaluated and treated appropriately, so the contribution to the regional loss of cultural and paleontological resources would be minimal.

With the solar facility, the Proposed Project would contribute toward efforts to increase sustainable energy sources and reduce greenhouse gas emissions (Items 6 and 8), which would benefit cumulative energy and GHG impacts.

The Proposed Project would comply with laws and regulations addressing the transport, use and storage of hazardous materials (Item 9), which are intended to protect the public from exposure to such materials. These regulations apply to all projects, and so adequately address the potential for cumulative exposure. Further, the WWTP site located over 500 feet from the nearest sensitive receptors, and there are no industrial or other projects planned in the area, so there would not be a cumulative impact related to exposure to hazardous materials on the WWTP site during construction or operation of the solar facility or algae removal system. During construction of the pipeline, there is the possibility of discovering unknown contaminated soils, but with mitigation identified in Item 9, such soil would be immediately identified and remediated, so it would not contribute toward cumulative exposure to hazardous materials.

As discussed in Item 10, the Proposed Project must prepare and comply with a Stormwater Pollution Prevention Plan during construction, and comply with the City's erosion control ordinance, which would protect water quality during construction. Once construction is completed, the Proposed Project would not have the potential to release eroded soils or urban contaminants, so it would not contribute to cumulative effects on water quality. Other projects within the City would also be required to comply with measures, so it would not contribute to cumulative degradation of water quality, which would be protected by the use of BMPs in the Plan Area and throughout the watershed.

The Proposed Project, particularly the sewer line upgrades, would expose nearby residents and others to noise during construction (Item 13). Depending on which segments of the sewer lines are upgraded, other projects could be under construction in the same vicinity. If this were to occur, noise levels could be higher at those locations than noise levels where only one project is being constructed. However, the construction activities for the sewer line improvements will move along the alignment, and will not occur for an extended time at any one location. Further, construction activities would occur during the day, in compliance with the City's noise ordinance, so construction noise, even if more than one project is constructed in proximity to a residence, would not disrupt sleep or other noise-sensitive activities, which typically occur in the evening or at night. There are no future development projects proposed in proximity to the WWTP, so construction of the solar facility and algae removal system would not add to other construction noise.

c. As discussed throughout this Checklist, potential impacts on human beings that could occur as a result of the Proposed Project are less than significant or could be reduced to less-than-significant levels with mitigation (see Items 3, Air Quality, 7, Geology and Soils, 9, Hazards and Hazardous Materials and 13, Noise).

4. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

4. Environmental Factors Potentially Affected

Those factors checked below involve impacts that are "Potentially Significant":

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

☒ None After Mitigation

5. DETERMINATION

5. Determination

On the basis of this Initial Study:

☐ I find that the proposed project WILL NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that as originally submitted, the proposed project could have a significant effect on the environment; however, revisions in the project have been made by or agreed to by the project proponent which will avoid these effects or mitigate these effects to a point where clearly no significant effect will occur. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on the attached Environmental Checklist. An ENVIRONMENTAL IMPACT REPORT is required, to analyze the effects that remain to be addressed.

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

8/10/2020
Date

City of Colfax

6. REFERENCES

6. REFERENCES

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7. REPORT PREPARERS

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APPENDICES

APPENDIX A:
AIR QUALITY AND GREENHOUSE GAS EMISSIONS CALCULATIONS

ATTACHMENT A
Assumptions

Colfax
Project Construction Assumptions

CalEEMod Inputs (Non-Default information only)

Project Location	
County	Placer County
Air District	Mountain Counties
Climate Zone	2
First Construction Year	2021
First Operational Year	2021
Utility Provider	PG&E

Land Use	Sq Ft	KSF	(Units)	Acers	CalEEMod Land Use Type
10% total Buildout (one year construction activities)					
Solar				2.00	Other No-Asphalt Surface
Pipeline				0.60	Other No-Asphalt Surface
Aerial Flotation Device				0.50	Other No-Asphalt Surface

Construction Schedule

Phases (if applicable)	Start (month/date/year)	Finish (month/date/year)	Days/week	Workers/day	days
Solar					
Site Preparation	5/1/2021		5	4	5
Grading/Excavation	5/8/2021		5	4	5
Drainage/Utilties/Trenching	5/16/2021		5	4	10
Foundations/Concrete Pour	5/29/2021	6/11/2021	5	4	10
Pipeline					
Drainage/Utilties/Trenching	5/1/2021	9/30/2021	5	8	109
Trenchless Pipe Rehab	5/1/2021	9/30/2021	5	6	109
Paving	5/1/2021	9/30/2021	5	5	109
Aerial Flotation Device Installation					
Drainage/Utilties/Trenching	5/1/2021	5/14/2021	5	3	10
Foundations/Concrete Pour	5/16/2021	5/2//2021	5	3	10

Soils are anticipated to be balanced onsite
Silt loading is the same as used for operational purposes and based on Merced County specifics

Construction Equipment by phase (Assumes one Project's worth of equipment per phase)

Solar
Site Preparation

Details

total import cys	0	total haul trucks	36
total export cys	540	Cy/truck	15
Daily Trucks	12	miles/trip	default

Equipment Type	#	Hrs/day	HP	LF
Loaders	1	8	default	default
Haul Truck	3	Vendor trips		

Colfax

Project Construction Assumptions

Grading/Excavation

Details			
total import cys	0	Cy/truck	0
total export cys	0	miles/trip	0
total haul trucks	0		

Equipment Type	#	Hrs/day	HP	LF
Excavator	1	8	default	default
Graders	1	8	default	default

Drainage/Utilities/Trenching

Details			
total import cys	0	Cy/truck	0
total export cys	0	miles/trip	0
total haul trucks	0		

Equipment Type	#	Hrs/day	HP	LF
Backhoes	1	8	default	default
trenchers	1	8	default	default

Foundation/Concrete Pour

Details			
total import cys	130	Cy/truck	10
daily import cys	65	miles/trip	0
total haul trucks	13		

Equipment Type	#	Hrs/day	HP	LF
Backhoes	2	6	default	default
bore/drill rigs	2	6	default	default
cement/Mortar Mixers	1	8	default	default

Pipeline

Drainage/Utilities/Trenching

Equipment Type	#	Hrs/day	HP	LF
Backhoe	3	8	default	default
Jackhammer	2	assumed pneumatic/electric		
Pumps	1	8	default	default
Signal Boards	1	8	default	default
sweeper scrubber	1	4	default	default
Haul Truck	3	Vendor trips		

Colfax
Project Construction Assumptions

Paving

Details	
acres of asphalt	0.60

Equipment Type	#	Hrs/day	HP	LF
Jackhammer	2	assumed pneumatic/electric		
Pavers	1	8	default	default
Paving Equipment	1	8	default	default
Signal Boards	1	8	default	default
Surfacing equipment	1	8	default	default
Haul Truck	5	Vendor trips		

Trenchless Pipe Rehab

Equipment Type	#	Hrs/day	HP	LF
Heavy Equipment part of Drainage/Utilities/Trenching phase				

Aerial Flotation Device Installation

Drainage/Utilities/Trenching

Details			
total import cys	0	Cy/truck	0
total export cys	0	miles/trip	0
total haul trucks	0		

Equipment Type	#	Hrs/day	HP	LF
Backhoes	1	8	default	default
trenchers	1	8	default	default
Haul Truck	1	Vendor trips		

Foundation/Concrete Pour

Details			
total import cys	66	Cy/truck	10
daily import cys	66	miles/trip	0
total haul trucks	7		

Equipment Type	#	Hrs/day	HP	LF
Backhoes	1	8	default	default
cement/Mortar Mixers	1	6	default	default
Haul Truck	1	Vendor trips		

Colfax

Project Construction Assumptions

Trips and VMT

	Daily Workers	Daily Worker	Trips Daily Vendor	Total Haul	days of Haul
Solar					
Site Preparation	4	8	3	36	3
Grading/Excavation	4	8		0	
Drainage/Utilties/Trenching	4	8		0	
Foundations/Concrete Pour	4	8		13	2
Pipeline					
Drainage/Utilties/Trenching	8	16	3	0	
Trenchless Pipe Rehab	6	12		0	
Paving	5	10	5	0	
Aerial Flotation Device Installation					
Drainage/Utilties/Trenching	3	6	1	0	
Foundations/Concrete Pour	3	6	1	7	1
Miles per trip		10.8	7.3	20	

Colfax
Project Construction Assumptions

CalEEMod Inputs (Non-Default information only)

Project Location	
County	Placer County
Air District	Mountain Counties
Climate Zone	2
First Construction Year	2021
First Operational Year	2021
Utility Provider	PG&E

	2020	2021
CO intensity	625.966	610.932
% renewable	34.57%	36.14%

[1] http://www.pgecorp.com/corp_responsibility/reports/2016/en02_climate_change.jsp

[2] http://www.cpuc.ca.gov/renewables/

Land Use:

	Sq Ft	KSF	(Units)	Acers	CalEEMod Land Use Type
10% total Buildout (one year construction activities)					
Solar	17,424			0.04	Other No-Asphalt Surface
Pipeline				N/A	Other No-Asphalt Surface
Aerial Flotation Device				N/A	Other No-Asphalt Surface

Transportation:

New Employees	0		
Maintenance (AF):	4	trips per month	
	3	months per year	12 trips per year
	60	miles per trip	720 miles per year

Dumpster Truck HHDT

Maintenance (Solar Panels):	8	trips per year
	60	miles per trip
	480	miles per year

Assumptions:	4	4 occurrances per year
	2	workers per trip
	2	vehicles per visit
	2	days to clean panels
	12	water truck trips per visit
	6	water trucks per day

Colfax

Project Construction Assumptions

Area Source: Defaults

Energy Use:

Natural Gas: None

Electricity:

Consumption:	8500	kWh/year	Alge Control	0.487832874 per sqft
Generation:	1,000,000	kWh/year	Solar Panels	

Water/wastewater:

Annual Water Use	20,000	gallons per year - solar panel cleaning
	5,000	gallons per cleaning session
	2,500	gallons per day
	450	gallons per truck
	6	trucks per day

Solid Waste: 20 tons/year Alge Control System

ATTACHMENT B
Calculations

1. Air Quality Summary - Construction
2. Air Quality Summary - Operational
3. GHG Emissions Summary

B1. Air Quality Summary - Construction

Colfax
Maximum Daily Unmitigated Construction Emissions (lbs/day)

CalEEMod	2016.3.2	Title:	Colfax - Construction Only	Date:	5/9/2020
EMFAC	2017	Title:	Colfax	Date:	5/11/2020

Unmitigated - Construction

	ROG	NOx	CO	SOx	PM10 Total	PM2.5 Total
	Max Annual (lbs/day)					
Solar	1	8	7	0	1	0
Pipeline	2	20	21	0	1	1
Aeration	1	6	5	0	0	0
Total Annual	3	33	34	0	3	2
Threshold	82	**82**	-	-	82	-
Exceed Threshold?	No	**No**	No	No	No	No

Colfax
Maximum Daily Unmitigated Construction Emissions (lbs/day)

Unmitigated - Construction

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
		(lbs/day)									
Solar - Site Preparation	Fugitive					0.0122	0	0.0122	1.85E-03	0	1.85E-03
	Off-Road	0.1873	1.8958	2.2602	3.11E-03		0.1118	0.1118		0.1028	0.1028
	Hauling	0.16	3.27	1.64	0.01	0.21	0.03	0.24	0.06	0.03	0.09
	Vendor	0.02	0.33	0.21	0.00	0.02	0.00	0.02	0.01	0.00	0.01
	Worker	0.00	0.01	0.16	0.00	0.07	0.00	0.07	0.02	0.00	0.02
	Total	0.37	5.51	4.27	0.01	0.31	0.15	0.45	0.08	0.14	0.22
Solar - Grading	Fugitive					0.8484	0	0.8484	0.0916	0	0.0916
	Off-Road	0.6822	8.078	5.039	0.0118		0.2921	0.2921		0.2688	0.2688
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.00	0.01	0.16	0.00	0.07	0.00	0.07	0.02	0.00	0.02
	Total	0.68	8.09	5.20	0.01	0.91	0.29	1.21	0.11	0.27	0.38
Solar - Utilities	Fugitive										
	Off-Road	0.4892	3.397	3.9699	5.65E-03		0.1854	0.1854		0.1765	0.1765
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.00	0.01	0.16	0.00	0.07	0.00	0.07	0.02	0.00	0.02
	Total	0.49	3.41	4.13	0.01	0.07	0.19	0.25	0.02	0.18	0.19
Solar - Foundation Pour	Off-Road	0.6132	6.3462	6.315	0.0139		0.3034	0.3034		0.2799	0.2799
	Paving	0					0	0		0	0
	Hauling	0.10	1.91	0.96	0.01	0.12	0.02	0.14	0.03	0.02	0.05
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.00	0.01	0.16	0.00	0.07	0.00	0.07	0.02	0.00	0.02
	Total	0.71	8.27	7.44	0.02	0.19	0.32	0.51	0.05	0.30	0.35

Colfax
Maximum Daily Unmitigated Construction Emissions (lbs/day)

Pipeline - Utilities	Fugitive										
	Off-Road	1.2286	11.0043	12.3999	0.0193		0.6305	0.6305		0.5976	0.5976
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.02	0.33	0.21	0.00	0.02	0.00	0.02	0.01	0.00	0.01
	Worker	0.01	0.03	0.33	0.00	0.13	0.00	0.13	0.03	0.00	0.04
	Total	1.25	11.36	12.93	0.02	0.15	0.63	0.79	0.04	0.60	0.64
Pipeline - Paving	Off-Road	0.7593	7.5798	7.3953	0.0167		0.328	0.328		0.3051	0.3051
	Paving	0					0	0		0	0
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.00	0.02	0.24	0.00	0.10	0.00	0.10	0.03	0.00	0.03
	Total	0.76	7.60	7.64	0.02	0.10	0.33	0.43	0.03	0.31	0.33
Pipeline - Trenching/Rehab	Fugitive										
	Off-Road										
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.03	0.55	0.35	0.00	0.03	0.00	0.04	0.01	0.00	0.01
	Worker	0.00	0.02	0.20	0.00	0.08	0.00	0.08	0.02	0.00	0.02
	Total	0.04	0.57	0.55	0.00	0.12	0.01	0.12	0.03	0.01	0.04
AF - Utilities	Fugitive										
	Off-Road	0.5709	5.4178	4.8704	6.48E-03		0.3676	0.3676		0.3382	0.3382
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.01	0.11	0.07	0.00	0.01	0.00	0.01	0.00	0.00	0.00
	Worker	0.00	0.01	0.12	0.00	0.05	0.00	0.05	0.01	0.00	0.01
	Total	0.58	5.54	5.06	0.01	0.06	0.37	0.42	0.01	0.34	0.35
AF - Foundation Pour	Off-Road	0.2313	2.1719	2.4915	3.64E-03		0.1225	0.1225		0.1136	0.1136
	Paving	0					0	0		0	0
	Hauling	0.10	1.91	0.96	0.01	0.12	0.02	0.14	0.03	0.02	0.05
	Vendor	0.01	0.11	0.07	0.00	0.01	0.00	0.01	0.00	0.00	0.00
	Worker	0.00	0.01	0.12	0.00	0.05	0.00	0.05	0.01	0.00	0.01
	Total	0.34	4.20	3.64	0.01	0.18	0.14	0.32	0.05	0.13	0.18

B2. Air Quality Summary - Operational

Colfax
Unmitigated Operational Impacts

CalEEMod 2016.3.2
Title: Colfax - Operation Only Date: 5/11/2020

EMFAC 2017 Colfax Date: 5/11/2020

Unmitigated Emissions

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
	Max (lbs/day)					
Area	*0.01*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Energy	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Mobile	*0.30*	*7.69*	*2.72*	*0.03*	*0.96*	*0.33*
Total	***0.31***	***7.69***	***2.72***	***0.03***	***0.96***	***0.33***
Thresholds	**55**	**55**	**N/A**	**N/A**	**82**	**N/A**
Exceeds Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Colfax
Unmitigated Operational Impacts - Project

Unmitigated Emissions - Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
	Summer (lbs/day)					
Area	*0.01*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Energy	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Mobile - AF	*0.02*	*0.59*	*0.17*	*0.00*	0.06	*0.02*
Mobile - Solar	*0.28*	*7.10*	*2.55*	*0.03*	*0.90*	*0.31*
Total	***0.31***	***7.69***	***2.72***	***0.03***	***0.96***	***0.33***

Unmitigated Emissions - Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
	Winter (lbs/day)					
Area	*0.01*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Energy	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Mobile - AF	*0.02*	*0.59*	*0.17*	*0.00*	0.06	*0.02*
Mobile - Solar	*0.28*	*7.10*	*2.55*	*0.03*	*0.90*	*0.31*
Total	***0.31***	***7.69***	***2.72***	***0.03***	***0.96***	***0.33***

B3. GHG Emissions Summary

Colfax
Construction GHG Summary

CalEEMod	2016.3.2	Date
Title:	Colfax - Construction Only	5/9/2020
EMFAC2017	Colfax	5/11/2020

Unmitigated Construction Emissions - Max Annual

		Annual $MTCO_2e$				Annual total	Project
	months	Off-Road	Hauling	Vendor	Worker	MT CO_2e	Total
			Solar				
Solar - Site Preparation	0.25	0.69	1.48	0.23	0.13	2.78	
Solar - Grading	0.25	2.61	0.00	0.00	0.13	2.99	
Solar - Utilities	0.5	2.31	0.00	0.00	0.26	3.07	
Solar - Foundation Pour	0.5	6.07	0.58	0.00	0.26	7.40	16
			Pipeline				
Pipeline - Utilities	4	89.31	0.00	4.99	5.56	99.86	
Pipeline - Paving	4	77.64	0.00	8.31	3.48	89.43	
Pipeline - Trenching/Rehab	4	0.00	0.00	0.00	4.17	4.17	193
			Aeration Floation Installation				
AF - Utilities	1	2.87	0.00	0.15	0.19	3.22	
AF - Foundation Pour	1	1.55	0.29	0.15	0.19	2.18	5
			Total Emissions				
Max Program							215
Amortized							7

Operational GHG Summary

CalEEMod	2016.3.2	Date
Title:	Colfax - Operation Only	5/11/2020
EMFAC2017	Colfax	5/11/2020

Operational Emissions By Sector

Sector	***MTCO$_2$ / year***
Area	0
Energy	2
Mobile	12
Waste	10
Water	0
Total Operational	**24**
Amortized Const	7
Total Consumption	**31**
Project Generation	-278
Net Project Consumption	**-247**

ATTACHMENT C
Modeling Output

1. CalEEMod - Construction
2. CalEEMod - Operational
3. EMFAC2017

C1. CalEEMod - Construction

Colfax - Construction Only

Placer-Mountain Counties County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	3.50	Acre	3.50	152,460.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - See Assumptions - Parking used because it is a solar farm and there is no building construction associated with it.

Construction Phase - See Assumptions

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Trips and VMT - Modeled outside of CalEEMod

Grading - See Assumptions

Vehicle Trips - Modeled Separately

Construction Off-road Equipment Mitigation - Air District Defaults

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	8.00	5.00
tblConstructionPhase	NumDays	18.00	10.00
tblConstructionPhase	NumDays	18.00	109.00
tblConstructionPhase	NumDays	18.00	10.00
tblConstructionPhase	PhaseEndDate	6/16/2021	5/14/2021
tblConstructionPhase	PhaseEndDate	6/4/2021	5/7/2021
tblConstructionPhase	PhaseStartDate	6/5/2021	5/8/2021
tblConstructionPhase	PhaseStartDate	5/29/2021	5/1/2021
tblGrading	AcresOfGrading	2.50	4.00
tblGrading	MaterialExported	0.00	540.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers

tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblTripsAndVMT	HaulingTripNumber	68.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.2409	32.0798	29.7046	0.0542	0.8484	1.6182	2.4666	0.0916	1.5097	1.6013	0.0000	5,125.4690	5,125.4690	1.4252	0.0000	5,161.0987
Maximum	**3.2409**	**32.0798**	**29.7046**	**0.0542**	**0.8484**	**1.6182**	**2.4666**	**0.0916**	**1.5097**	**1.6013**	**0.0000**	**5,125.4690**	**5,125.4690**	**1.4252**	**0.0000**	**5,161.0987**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.2409	32.0798	29.7046	0.0542	0.3627	1.6182	1.9809	0.0392	1.5097	1.5489	0.0000	5,125.4690	5,125.4690	1.4252	0.0000	5,161.0987
Maximum	**3.2409**	**32.0798**	**29.7046**	**0.0542**	**0.3627**	**1.6182**	**1.9809**	**0.0392**	**1.5097**	**1.5489**	**0.0000**	**5,125.4690**	**5,125.4690**	**1.4252**	**0.0000**	**5,161.0987**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**57.25**	**0.00**	**19.69**	**57.25**	**0.00**	**3.28**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Operational Emissions Modeled Separately

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Solar - Site Preparation	Site Preparation	5/1/2021	5/7/2021	5	5	
2	Solar - Grading	Grading	5/8/2021	5/14/2021	5	5	
3	Solar - Utilities	Trenching	5/16/2021	5/28/2021	5	10	
4	Solar - Foundation Pour	Paving	5/29/2021	6/11/2021	5	10	
5	Pipeline - Utilities	Trenching	5/1/2021	9/30/2021	5	109	
6	Pipeline - Paving	Paving	5/1/2021	9/30/2021	5	109	
7	AF - Utilities	Trenching	5/1/2021	5/14/2021	5	10	
8	AF - Foundation Pour	Paving	5/16/2021	5/28/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Solar - Foundation Pour	Cement and Mortar Mixers	1	6.00	9	0.56
Pipeline - Paving	Cement and Mortar Mixers	0	6.00	9	0.56
AF - Foundation Pour	Cement and Mortar Mixers	1	6.00	9	0.56
Solar - Foundation Pour	Pavers	0	8.00	130	0.42
Pipeline - Paving	Pavers	1	8.00	130	0.42
AF - Foundation Pour	Pavers	0	8.00	130	0.42
Solar - Grading	Excavators	1	8.00	158	0.38
Solar - Foundation Pour	Paving Equipment	0	6.00	132	0.36
Pipeline - Paving	Paving Equipment	1	6.00	132	0.36

AF - Foundation Pour	Paving Equipment	0	6.00	132	0.36
Solar - Grading	Rubber Tired Dozers	0	8.00	247	0.40
Solar - Foundation Pour	Rollers	0	6.00	80	0.38
Pipeline - Paving	Rollers	0	6.00	80	0.38
Solar - Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
AF - Foundation Pour	Rollers	0	6.00	80	0.38
Solar - Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Solar - Grading	Graders	1	8.00	187	0.41
Solar - Foundation Pour	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Solar - Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Pipeline - Paving	Tractors/Loaders/Backhoes	0	8.00	97	0.37
AF - Foundation Pour	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Solar - Utilities	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Solar - Utilities	Welders	1	8.00	46	0.45
Solar - Foundation Pour	Bore/Drill Rigs	1	6.00	221	0.50
Pipeline - Utilities	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Pipeline - Utilities	Pumps	1	8.00	84	0.74
Pipeline - Utilities	Signal Boards	1	24.00	6	0.82
Pipeline - Utilities	Sweepers/Scrubbers	1	4.00	64	0.46
Pipeline - Paving	Signal Boards	1	24.00	6	0.82
Pipeline - Paving	Surfacing Equipment	1	8.00	263	0.30
AF - Utilities	Tractors/Loaders/Backhoes	1	8.00	97	0.37
AF - Utilities	Trenchers	1	8.00	78	0.50

Trips and VMT

Onroad Emissions Modeled Outside of CalEEMod

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
Solar - Foundation Pour	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Solar - Site Preparation	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Solar - Grading	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Pipeline - Paving	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
AF - Foundation Pour	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Solar - Utilities	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline - Utilities	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
AF - Utilities	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Solar - Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0122	0.0000	0.0122	1.8500e-003	0.0000	1.8500e-003			0.0000			0.0000
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028		300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**	**0.0122**	**0.1118**	**0.1240**	**1.8500e-003**	**0.1028**	**0.1047**		**300.9001**	**300.9001**	**0.0973**		**303.3330**

Unmitigated Construction Off-Site

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

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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					5.2200e-003	0.0000	5.2200e-003	7.9000e-004	0.0000	7.9000e-004			0.0000			0.0000
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028	0.0000	300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**	**5.2200e-003**	**0.1118**	**0.1170**	**7.9000e-004**	**0.1028**	**0.1036**	**0.0000**	**300.9001**	**300.9001**	**0.0973**		**303.3330**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Solar - Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8484	0.0000	0.8484	0.0916	0.0000	0.0916			0.0000			0.0000
Off-Road	0.6822	8.0780	5.0390	0.0118		0.2921	0.2921		0.2688	0.2688		1,141.8761	1,141.8761	0.3693		1,151.1087
Total	**0.6822**	**8.0780**	**5.0390**	**0.0118**	**0.8484**	**0.2921**	**1.1405**	**0.0916**	**0.2688**	**0.3604**		**1,141.8761**	**1,141.8761**	**0.3693**		**1,151.1087**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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					0.3627	0.0000	0.3627	0.0392	0.0000	0.0392			0.0000			0.0000
Off-Road	0.6822	8.0780	5.0390	0.0118		0.2921	0.2921		0.2688	0.2688	0.0000	1,141.8761	1,141.8761	0.3693		1,151.1087
Total	**0.6822**	**8.0780**	**5.0390**	**0.0118**	**0.3627**	**0.2921**	**0.6548**	**0.0392**	**0.2688**	**0.3079**	**0.0000**	**1,141.8761**	**1,141.8761**	**0.3693**		**1,151.1087**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.4 Solar - Utilities - 2021

Unmitigated Construction On-Site

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

Off-Road	0.4892	3.3970	3.9699	5.6500e-003		0.1854	0.1854		0.1765	0.1765		507.1579	507.1579	0.1239		510.2564
Total	**0.4892**	**3.3970**	**3.9699**	**5.6500e-003**		**0.1854**	**0.1854**		**0.1765**	**0.1765**		**507.1579**	**507.1579**	**0.1239**		**510.2564**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4892	3.3970	3.9699	5.6500e-003		0.1854	0.1854		0.1765	0.1765	0.0000	507.1579	507.1579	0.1239		510.2564
Total	**0.4892**	**3.3970**	**3.9699**	**5.6500e-003**		**0.1854**	**0.1854**		**0.1765**	**0.1765**	**0.0000**	**507.1579**	**507.1579**	**0.1239**		**510.2564**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Solar - Foundation Pour - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6132	6.3462	6.3150	0.0139		0.3034	0.3034		0.2799	0.2799		1,327.1544	1,327.1544	0.4209		1,337.6771
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6132**	**6.3462**	**6.3150**	**0.0139**		**0.3034**	**0.3034**		**0.2799**	**0.2799**		**1,327.1544**	**1,327.1544**	**0.4209**		**1,337.6771**

Unmitigated Construction Off-Site

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

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6132	6.3462	6.3150	0.0139		0.3034	0.3034		0.2799	0.2799	0.0000	1,327.1544	1,327.1544	0.4209		1,337.6771
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6132**	**6.3462**	**6.3150**	**0.0139**		**0.3034**	**0.3034**		**0.2799**	**0.2799**	**0.0000**	**1,327.1544**	**1,327.1544**	**0.4209**		**1,337.6771**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Pipeline - Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2286	11.0043	12.3999	0.0193		0.6305	0.6305		0.5976	0.5976		1,796.7647	1,796.7647	0.3811		1,806.2924
Total	**1.2286**	**11.0043**	**12.3999**	**0.0193**		**0.6305**	**0.6305**		**0.5976**	**0.5976**		**1,796.7647**	**1,796.7647**	**0.3811**		**1,806.2924**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2286	11.0043	12.3999	0.0193		0.6305	0.6305		0.5976	0.5976	0.0000	1,796.7647	1,796.7647	0.3811		1,806.2924
Total	**1.2286**	**11.0043**	**12.3999**	**0.0193**		**0.6305**	**0.6305**		**0.5976**	**0.5976**	**0.0000**	**1,796.7647**	**1,796.7647**	**0.3811**		**1,806.2924**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Pipeline - Paving - 2021

Unmitigated Construction On-Site

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

Off-Road	0.7593	7.5798	7.3953	0.0167		0.3280	0.3280		0.3051	0.3051		1,558.5908	1,558.5908	0.4716		1,570.3806
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7593**	**7.5798**	**7.3953**	**0.0167**		**0.3280**	**0.3280**		**0.3051**	**0.3051**		**1,558.5908**	**1,558.5908**	**0.4716**		**1,570.3806**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7593	7.5798	7.3953	0.0167		0.3280	0.3280		0.3051	0.3051	0.0000	1,558.5908	1,558.5908	0.4716		1,570.3806
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7593**	**7.5798**	**7.3953**	**0.0167**		**0.3280**	**0.3280**		**0.3051**	**0.3051**	**0.0000**	**1,558.5908**	**1,558.5908**	**0.4716**		**1,570.3806**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.8 AF - Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5709	5.4178	4.8704	6.4800e-003		0.3676	0.3676		0.3382	0.3382		628.2373	628.2373	0.2032		633.3169
Total	**0.5709**	**5.4178**	**4.8704**	**6.4800e-003**		**0.3676**	**0.3676**		**0.3382**	**0.3382**		**628.2373**	**628.2373**	**0.2032**		**633.3169**

Unmitigated Construction Off-Site

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

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5709	5.4178	4.8704	6.4800e-003		0.3676	0.3676		0.3382	0.3382	0.0000	628.2373	628.2373	0.2032		633.3169
Total	**0.5709**	**5.4178**	**4.8704**	**6.4800e-003**		**0.3676**	**0.3676**		**0.3382**	**0.3382**	**0.0000**	**628.2373**	**628.2373**	**0.2032**		**633.3169**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.9 AF - Foundation Pour - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2313	2.1719	2.4915	3.6400e-003		0.1225	0.1225		0.1136	0.1136		338.7873	338.7873	0.1013		341.3186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2313**	**2.1719**	**2.4915**	**3.6400e-003**		**0.1225**	**0.1225**		**0.1136**	**0.1136**		**338.7873**	**338.7873**	**0.1013**		**341.3186**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2313	2.1719	2.4915	3.6400e-003		0.1225	0.1225		0.1136	0.1136	0.0000	338.7873	338.7873	0.1013		341.3186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2313**	**2.1719**	**2.4915**	**3.6400e-003**		**0.1225**	**0.1225**		**0.1136**	**0.1136**	**0.0000**	**338.7873**	**338.7873**	**0.1013**		**341.3186**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

Operational Emissions Modeled Separately

Colfax - Construction Only - Placer-Mountain Counties County, Summer

Colfax - Construction Only

Placer-Mountain Counties County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	3.50	Acre	3.50	152,460.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - See Assumptions - Parking used because it is a solar farm and there is no building construction associated with it.

Construction Phase - See Assumptions

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Trips and VMT - Modeled outside of CalEEMod

Grading - See Assumptions

Vehicle Trips - Modeled Separately

Construction Off-road Equipment Mitigation - Air District Defaults

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	8.00	5.00
tblConstructionPhase	NumDays	18.00	10.00
tblConstructionPhase	NumDays	18.00	109.00
tblConstructionPhase	NumDays	18.00	10.00
tblConstructionPhase	PhaseEndDate	6/16/2021	5/14/2021
tblConstructionPhase	PhaseEndDate	6/4/2021	5/7/2021
tblConstructionPhase	PhaseStartDate	6/5/2021	5/8/2021
tblConstructionPhase	PhaseStartDate	5/29/2021	5/1/2021
tblGrading	AcresOfGrading	2.50	4.00
tblGrading	MaterialExported	0.00	540.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers

tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblTripsAndVMT	HaulingTripNumber	68.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.2409	32.0798	29.7046	0.0542	0.8484	1.6182	2.4666	0.0916	1.5097	1.6013	0.0000	5,125.4690	5,125.4690	1.4252	0.0000	5,161.0987
Maximum	**3.2409**	**32.0798**	**29.7046**	**0.0542**	**0.8484**	**1.6182**	**2.4666**	**0.0916**	**1.5097**	**1.6013**	**0.0000**	**5,125.4690**	**5,125.4690**	**1.4252**	**0.0000**	**5,161.0987**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	3.2409	32.0798	29.7046	0.0542	0.3627	1.6182	1.9809	0.0392	1.5097	1.5489	0.0000	5,125.4690	5,125.4690	1.4252	0.0000	5,161.0987
Maximum	**3.2409**	**32.0798**	**29.7046**	**0.0542**	**0.3627**	**1.6182**	**1.9809**	**0.0392**	**1.5097**	**1.5489**	**0.0000**	**5,125.4690**	**5,125.4690**	**1.4252**	**0.0000**	**5,161.0987**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**57.25**	**0.00**	**19.69**	**57.25**	**0.00**	**3.28**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Operational Emissions Modeled Separately

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Solar - Site Preparation	Site Preparation	5/1/2021	5/7/2021	5	5	
2	Solar - Grading	Grading	5/8/2021	5/14/2021	5	5	
3	Solar - Utilities	Trenching	5/16/2021	5/28/2021	5	10	
4	Solar - Foundation Pour	Paving	5/29/2021	6/11/2021	5	10	
5	Pipeline - Utilities	Trenching	5/1/2021	9/30/2021	5	109	
6	Pipeline - Paving	Paving	5/1/2021	9/30/2021	5	109	
7	AF - Utilities	Trenching	5/1/2021	5/14/2021	5	10	
8	AF - Foundation Pour	Paving	5/16/2021	5/28/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Solar - Foundation Pour	Cement and Mortar Mixers	1	6.00	9	0.56
Pipeline - Paving	Cement and Mortar Mixers	0	6.00	9	0.56
AF - Foundation Pour	Cement and Mortar Mixers	1	6.00	9	0.56
Solar - Foundation Pour	Pavers	0	8.00	130	0.42
Pipeline - Paving	Pavers	1	8.00	130	0.42
AF - Foundation Pour	Pavers	0	8.00	130	0.42
Solar - Grading	Excavators	1	8.00	158	0.38
Solar - Foundation Pour	Paving Equipment	0	6.00	132	0.36
Pipeline - Paving	Paving Equipment	1	6.00	132	0.36

AF - Foundation Pour	Paving Equipment	0	6.00	132	0.36
Solar - Grading	Rubber Tired Dozers	0	8.00	247	0.40
Solar - Foundation Pour	Rollers	0	6.00	80	0.38
Pipeline - Paving	Rollers	0	6.00	80	0.38
Solar - Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
AF - Foundation Pour	Rollers	0	6.00	80	0.38
Solar - Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Solar - Grading	Graders	1	8.00	187	0.41
Solar - Foundation Pour	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Solar - Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Pipeline - Paving	Tractors/Loaders/Backhoes	0	8.00	97	0.37
AF - Foundation Pour	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Solar - Utilities	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Solar - Utilities	Welders	1	8.00	46	0.45
Solar - Foundation Pour	Bore/Drill Rigs	1	6.00	221	0.50
Pipeline - Utilities	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Pipeline - Utilities	Pumps	1	8.00	84	0.74
Pipeline - Utilities	Signal Boards	1	24.00	6	0.82
Pipeline - Utilities	Sweepers/Scrubbers	1	4.00	64	0.46
Pipeline - Paving	Signal Boards	1	24.00	6	0.82
Pipeline - Paving	Surfacing Equipment	1	8.00	263	0.30
AF - Utilities	Tractors/Loaders/Backhoes	1	8.00	97	0.37
AF - Utilities	Trenchers	1	8.00	78	0.50

Trips and VMT

Onroad Emissions Modeled Outside of CalEEMod

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
Solar - Foundation Pour	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Solar - Site Preparation	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Solar - Grading	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Pipeline - Paving	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
AF - Foundation Pour	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Solar - Utilities	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline - Utilities	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
AF - Utilities	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Solar - Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0122	0.0000	0.0122	1.8500e-003	0.0000	1.8500e-003			0.0000			0.0000
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028		300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**	**0.0122**	**0.1118**	**0.1240**	**1.8500e-003**	**0.1028**	**0.1047**		**300.9001**	**300.9001**	**0.0973**		**303.3330**

Unmitigated Construction Off-Site

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

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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					5.2200e-003	0.0000	5.2200e-003	7.9000e-004	0.0000	7.9000e-004			0.0000			0.0000
Off-Road	0.1873	1.8958	2.2602	3.1100e-003		0.1118	0.1118		0.1028	0.1028	0.0000	300.9001	300.9001	0.0973		303.3330
Total	**0.1873**	**1.8958**	**2.2602**	**3.1100e-003**	**5.2200e-003**	**0.1118**	**0.1170**	**7.9000e-004**	**0.1028**	**0.1036**	**0.0000**	**300.9001**	**300.9001**	**0.0973**		**303.3330**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.3 Solar - Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8484	0.0000	0.8484	0.0916	0.0000	0.0916			0.0000			0.0000
Off-Road	0.6822	8.0780	5.0390	0.0118		0.2921	0.2921		0.2688	0.2688		1,141.8761	1,141.8761	0.3693		1,151.1087
Total	**0.6822**	**8.0780**	**5.0390**	**0.0118**	**0.8484**	**0.2921**	**1.1405**	**0.0916**	**0.2688**	**0.3604**		**1,141.8761**	**1,141.8761**	**0.3693**		**1,151.1087**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

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					0.3627	0.0000	0.3627	0.0392	0.0000	0.0392			0.0000			0.0000
Off-Road	0.6822	8.0780	5.0390	0.0118		0.2921	0.2921		0.2688	0.2688	0.0000	1,141.8761	1,141.8761	0.3693		1,151.1087
Total	**0.6822**	**8.0780**	**5.0390**	**0.0118**	**0.3627**	**0.2921**	**0.6548**	**0.0392**	**0.2688**	**0.3079**	**0.0000**	**1,141.8761**	**1,141.8761**	**0.3693**		**1,151.1087**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.4 Solar - Utilities - 2021

Unmitigated Construction On-Site

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

Off-Road	0.4892	3.3970	3.9699	5.6500e-003		0.1854	0.1854		0.1765	0.1765		507.1579	507.1579	0.1239		510.2564
Total	**0.4892**	**3.3970**	**3.9699**	**5.6500e-003**		**0.1854**	**0.1854**		**0.1765**	**0.1765**		**507.1579**	**507.1579**	**0.1239**		**510.2564**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4892	3.3970	3.9699	5.6500e-003		0.1854	0.1854		0.1765	0.1765	0.0000	507.1579	507.1579	0.1239		510.2564
Total	**0.4892**	**3.3970**	**3.9699**	**5.6500e-003**		**0.1854**	**0.1854**		**0.1765**	**0.1765**	**0.0000**	**507.1579**	**507.1579**	**0.1239**		**510.2564**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.5 Solar - Foundation Pour - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6132	6.3462	6.3150	0.0139		0.3034	0.3034		0.2799	0.2799		1,327.1544	1,327.1544	0.4209		1,337.6771
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6132**	**6.3462**	**6.3150**	**0.0139**		**0.3034**	**0.3034**		**0.2799**	**0.2799**		**1,327.1544**	**1,327.1544**	**0.4209**		**1,337.6771**

Unmitigated Construction Off-Site

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

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6132	6.3462	6.3150	0.0139		0.3034	0.3034		0.2799	0.2799	0.0000	1,327.1544	1,327.1544	0.4209		1,337.6771
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6132**	**6.3462**	**6.3150**	**0.0139**		**0.3034**	**0.3034**		**0.2799**	**0.2799**	**0.0000**	**1,327.1544**	**1,327.1544**	**0.4209**		**1,337.6771**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.6 Pipeline - Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2286	11.0043	12.3999	0.0193		0.6305	0.6305		0.5976	0.5976		1,796.7647	1,796.7647	0.3811		1,806.2924
Total	**1.2286**	**11.0043**	**12.3999**	**0.0193**		**0.6305**	**0.6305**		**0.5976**	**0.5976**		**1,796.7647**	**1,796.7647**	**0.3811**		**1,806.2924**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2286	11.0043	12.3999	0.0193		0.6305	0.6305		0.5976	0.5976	0.0000	1,796.7647	1,796.7647	0.3811		1,806.2924
Total	**1.2286**	**11.0043**	**12.3999**	**0.0193**		**0.6305**	**0.6305**		**0.5976**	**0.5976**	**0.0000**	**1,796.7647**	**1,796.7647**	**0.3811**		**1,806.2924**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.7 Pipeline - Paving - 2021

Unmitigated Construction On-Site

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

Off-Road	0.7593	7.5798	7.3953	0.0167		0.3280	0.3280		0.3051	0.3051		1,558.5908	1,558.5908	0.4716		1,570.3806
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7593**	**7.5798**	**7.3953**	**0.0167**		**0.3280**	**0.3280**		**0.3051**	**0.3051**		**1,558.5908**	**1,558.5908**	**0.4716**		**1,570.3806**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7593	7.5798	7.3953	0.0167		0.3280	0.3280		0.3051	0.3051	0.0000	1,558.5908	1,558.5908	0.4716		1,570.3806
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.7593**	**7.5798**	**7.3953**	**0.0167**		**0.3280**	**0.3280**		**0.3051**	**0.3051**	**0.0000**	**1,558.5908**	**1,558.5908**	**0.4716**		**1,570.3806**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.8 AF - Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5709	5.4178	4.8704	6.4800e-003		0.3676	0.3676		0.3382	0.3382		628.2373	628.2373	0.2032		633.3169
Total	**0.5709**	**5.4178**	**4.8704**	**6.4800e-003**		**0.3676**	**0.3676**		**0.3382**	**0.3382**		**628.2373**	**628.2373**	**0.2032**		**633.3169**

Unmitigated Construction Off-Site

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

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5709	5.4178	4.8704	6.4800e-003		0.3676	0.3676		0.3382	0.3382	0.0000	628.2373	628.2373	0.2032		633.3169
Total	**0.5709**	**5.4178**	**4.8704**	**6.4800e-003**		**0.3676**	**0.3676**		**0.3382**	**0.3382**	**0.0000**	**628.2373**	**628.2373**	**0.2032**		**633.3169**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

3.9 AF - Foundation Pour - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2313	2.1719	2.4915	3.6400e-003		0.1225	0.1225		0.1136	0.1136		338.7873	338.7873	0.1013		341.3186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2313**	**2.1719**	**2.4915**	**3.6400e-003**		**0.1225**	**0.1225**		**0.1136**	**0.1136**		**338.7873**	**338.7873**	**0.1013**		**341.3186**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.2313	2.1719	2.4915	3.6400e-003		0.1225	0.1225		0.1136	0.1136	0.0000	338.7873	338.7873	0.1013		341.3186
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.2313**	**2.1719**	**2.4915**	**3.6400e-003**		**0.1225**	**0.1225**		**0.1136**	**0.1136**	**0.0000**	**338.7873**	**338.7873**	**0.1013**		**341.3186**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

4.0 Operational Detail - Mobile

Operational Emissions Modeled Separately

Colfax - Construction Only - Placer-Mountain Counties County, Annual

Colfax - Construction Only

Placer-Mountain Counties County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	3.50	Acre	3.50	152,460.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - See Assumptions - Parking used because it is a solar farm and there is no building construction associated with it.

Construction Phase - See Assumptions

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Off-road Equipment - Equipment provided

Trips and VMT - Modeled outside of CalEEMod

Grading - See Assumptions

Vehicle Trips - Modeled Separately

Construction Off-road Equipment Mitigation - Air District Defaults

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	8.00	5.00
tblConstructionPhase	NumDays	18.00	10.00
tblConstructionPhase	NumDays	18.00	109.00
tblConstructionPhase	NumDays	18.00	10.00
tblConstructionPhase	PhaseEndDate	6/16/2021	5/14/2021
tblConstructionPhase	PhaseEndDate	6/4/2021	5/7/2021
tblConstructionPhase	PhaseStartDate	6/5/2021	5/8/2021
tblConstructionPhase	PhaseStartDate	5/29/2021	5/1/2021
tblGrading	AcresOfGrading	2.50	4.00
tblGrading	MaterialExported	0.00	540.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.30	0.30
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Pumps
tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Sweepers/Scrubbers

tblOffRoadEquipment	OffRoadEquipmentType		Signal Boards
tblOffRoadEquipment	OffRoadEquipmentType		Surfacing Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblTripsAndVMT	HaulingTripNumber	68.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1200	1.1244	1.1853	2.1400e-003	2.1500e-003	0.0581	0.0603	2.3000e-004	0.0547	0.0549	0.0000	181.8729	181.8729	0.0471	0.0000	183.0496
Maximum	**0.1200**	**1.1244**	**1.1853**	**2.1400e-003**	**2.1500e-003**	**0.0581**	**0.0603**	**2.3000e-004**	**0.0547**	**0.0549**	**0.0000**	**181.8729**	**181.8729**	**0.0471**	**0.0000**	**183.0496**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1200	1.1244	1.1853	2.1400e-003	9.2000e-004	0.0581	0.0591	1.0000e-004	0.0547	0.0548	0.0000	181.8726	181.8726	0.0471	0.0000	183.0494
Maximum	**0.1200**	**1.1244**	**1.1853**	**2.1400e-003**	**9.2000e-004**	**0.0581**	**0.0591**	**1.0000e-004**	**0.0547**	**0.0548**	**0.0000**	**181.8726**	**181.8726**	**0.0471**	**0.0000**	**183.0494**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**57.21**	**0.00**	**2.04**	**56.52**	**0.00**	**0.24**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

1	5-1-2021	7-31-2021	0.7970	0.7970
2	8-1-2021	9-30-2021	0.4482	0.4482
		Highest	0.7970	0.7970

2.2 Overall Operational

Operational Emissions Modeled Separately

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Solar - Site Preparation	Site Preparation	5/1/2021	5/7/2021	5	5	
2	Solar - Grading	Grading	5/8/2021	5/14/2021	5	5	
3	Solar - Utilities	Trenching	5/16/2021	5/28/2021	5	10	
4	Solar - Foundation Pour	Paving	5/29/2021	6/11/2021	5	10	
5	Pipeline - Utilities	Trenching	5/1/2021	9/30/2021	5	109	
6	Pipeline - Paving	Paving	5/1/2021	9/30/2021	5	109	
7	AF - Utilities	Trenching	5/1/2021	5/14/2021	5	10	
8	AF - Foundation Pour	Paving	5/16/2021	5/28/2021	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 3.5

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Solar - Foundation Pour	Cement and Mortar Mixers	1	6.00	9	0.56
Pipeline - Paving	Cement and Mortar Mixers	0	6.00	9	0.56
AF - Foundation Pour	Cement and Mortar Mixers	1	6.00	9	0.56
Solar - Foundation Pour	Pavers	0	8.00	130	0.42

Pipeline - Paving	Pavers	1	8.00	130	0.42
AF - Foundation Pour	Pavers	0	8.00	130	0.42
Solar - Grading	Excavators	1	8.00	158	0.38
Solar - Foundation Pour	Paving Equipment	0	6.00	132	0.36
Pipeline - Paving	Paving Equipment	1	6.00	132	0.36
AF - Foundation Pour	Paving Equipment	0	6.00	132	0.36
Solar - Grading	Rubber Tired Dozers	0	8.00	247	0.40
Solar - Foundation Pour	Rollers	0	6.00	80	0.38
Pipeline - Paving	Rollers	0	6.00	80	0.38
Solar - Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
AF - Foundation Pour	Rollers	0	6.00	80	0.38
Solar - Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Solar - Grading	Graders	1	8.00	187	0.41
Solar - Foundation Pour	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Solar - Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Pipeline - Paving	Tractors/Loaders/Backhoes	0	8.00	97	0.37
AF - Foundation Pour	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Solar - Utilities	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Solar - Utilities	Welders	1	8.00	46	0.45
Solar - Foundation Pour	Bore/Drill Rigs	1	6.00	221	0.50
Pipeline - Utilities	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Pipeline - Utilities	Pumps	1	8.00	84	0.74
Pipeline - Utilities	Signal Boards	1	24.00	6	0.82
Pipeline - Utilities	Sweepers/Scrubbers	1	4.00	64	0.46
Pipeline - Paving	Signal Boards	1	24.00	6	0.82
Pipeline - Paving	Surfacing Equipment	1	8.00	263	0.30
AF - Utilities	Tractors/Loaders/Backhoes	1	8.00	97	0.37
AF - Utilities	Trenchers	1	8.00	78	0.50

Trips and VMT

Onroad Emissions Modeled Outside of CalEEMod

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
Solar - Foundation Pour	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Solar - Site Preparation	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Solar - Grading	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline - Paving	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
AF - Foundation Pour	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Solar - Utilities	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Pipeline - Utilities	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
AF - Utilities	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Solar - Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					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	4.7000e-004	4.7400e-003	5.6500e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.6000e-004	2.6000e-004	0.0000	0.6824	0.6824	2.2000e-004	0.0000	0.6880
Total	**4.7000e-004**	**4.7400e-003**	**5.6500e-003**	**1.0000e-005**	**3.0000e-005**	**2.8000e-004**	**3.1000e-004**	**0.0000**	**2.6000e-004**	**2.6000e-004**	**0.0000**	**0.6824**	**0.6824**	**2.2000e-004**	**0.0000**	**0.6880**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7000e-004	4.7400e-003	5.6500e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.6000e-004	2.6000e-004	0.0000	0.6824	0.6824	2.2000e-004	0.0000	0.6880
Total	**4.7000e-004**	**4.7400e-003**	**5.6500e-003**	**1.0000e-005**	**1.0000e-005**	**2.8000e-004**	**2.9000e-004**	**0.0000**	**2.6000e-004**	**2.6000e-004**	**0.0000**	**0.6824**	**0.6824**	**2.2000e-004**	**0.0000**	**0.6880**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Solar - Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.1200e-003	0.0000	2.1200e-003	2.3000e-004	0.0000	2.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0202	0.0126	3.0000e-005		7.3000e-004	7.3000e-004		6.7000e-004	6.7000e-004	0.0000	2.5897	2.5897	8.4000e-004	0.0000	2.6107
Total	**1.7100e-003**	**0.0202**	**0.0126**	**3.0000e-005**	**2.1200e-003**	**7.3000e-004**	**2.8500e-003**	**2.3000e-004**	**6.7000e-004**	**9.0000e-004**	**0.0000**	**2.5897**	**2.5897**	**8.4000e-004**	**0.0000**	**2.6107**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					9.1000e-004	0.0000	9.1000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0202	0.0126	3.0000e-005		7.3000e-004	7.3000e-004		6.7000e-004	6.7000e-004	0.0000	2.5897	2.5897	8.4000e-004	0.0000	2.6107
Total	**1.7100e-003**	**0.0202**	**0.0126**	**3.0000e-005**	**9.1000e-004**	**7.3000e-004**	**1.6400e-003**	**1.0000e-004**	**6.7000e-004**	**7.7000e-004**	**0.0000**	**2.5897**	**2.5897**	**8.4000e-004**	**0.0000**	**2.6107**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Solar - Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.4500e-003	0.0170	0.0199	3.0000e-005		9.3000e-004	9.3000e-004		8.8000e-004	8.8000e-004	0.0000	2.3004	2.3004	5.6000e-004	0.0000	2.3145
Total	**2.4500e-003**	**0.0170**	**0.0199**	**3.0000e-005**		**9.3000e-004**	**9.3000e-004**		**8.8000e-004**	**8.8000e-004**	**0.0000**	**2.3004**	**2.3004**	**5.6000e-004**	**0.0000**	**2.3145**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.4500e-003	0.0170	0.0199	3.0000e-005		9.3000e-004	9.3000e-004		8.8000e-004	8.8000e-004	0.0000	2.3004	2.3004	5.6000e-004	0.0000	2.3145
Total	**2.4500e-003**	**0.0170**	**0.0199**	**3.0000e-005**		**9.3000e-004**	**9.3000e-004**		**8.8000e-004**	**8.8000e-004**	**0.0000**	**2.3004**	**2.3004**	**5.6000e-004**	**0.0000**	**2.3145**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Solar - Foundation Pour - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.0700e-003	0.0317	0.0316	7.0000e-005		1.5200e-003	1.5200e-003		1.4000e-003	1.4000e-003	0.0000	6.0199	6.0199	1.9100e-003	0.0000	6.0676
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.0700e-003**	**0.0317**	**0.0316**	**7.0000e-005**		**1.5200e-003**	**1.5200e-003**		**1.4000e-003**	**1.4000e-003**	**0.0000**	**6.0199**	**6.0199**	**1.9100e-003**	**0.0000**	**6.0676**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	3.0700e-003	0.0317	0.0316	7.0000e-005		1.5200e-003	1.5200e-003		1.4000e-003	1.4000e-003	0.0000	6.0199	6.0199	1.9100e-003	0.0000	6.0676
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.0700e-003**	**0.0317**	**0.0316**	**7.0000e-005**		**1.5200e-003**	**1.5200e-003**		**1.4000e-003**	**1.4000e-003**	**0.0000**	**6.0199**	**6.0199**	**1.9100e-003**	**0.0000**	**6.0676**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Pipeline - Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0670	0.5997	0.6758	1.0500e-003		0.0344	0.0344		0.0326	0.0326	0.0000	88.8349	88.8349	0.0188	0.0000	89.3059
Total	**0.0670**	**0.5997**	**0.6758**	**1.0500e-003**		**0.0344**	**0.0344**		**0.0326**	**0.0326**	**0.0000**	**88.8349**	**88.8349**	**0.0188**	**0.0000**	**89.3059**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0670	0.5997	0.6758	1.0500e-003		0.0344	0.0344		0.0326	0.0326	0.0000	88.8348	88.8348	0.0188	0.0000	89.3058
Total	**0.0670**	**0.5997**	**0.6758**	**1.0500e-003**		**0.0344**	**0.0344**		**0.0326**	**0.0326**	**0.0000**	**88.8348**	**88.8348**	**0.0188**	**0.0000**	**89.3058**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Pipeline - Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0414	0.4131	0.4030	9.1000e-004		0.0179	0.0179		0.0166	0.0166	0.0000	77.0592	77.0592	0.0233	0.0000	77.6421
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0414**	**0.4131**	**0.4030**	**9.1000e-004**		**0.0179**	**0.0179**		**0.0166**	**0.0166**	**0.0000**	**77.0592**	**77.0592**	**0.0233**	**0.0000**	**77.6421**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.0414	0.4131	0.4030	9.1000e-004		0.0179	0.0179		0.0166	0.0166	0.0000	77.0591	77.0591	0.0233	0.0000	77.6420
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0414**	**0.4131**	**0.4030**	**9.1000e-004**		**0.0179**	**0.0179**		**0.0166**	**0.0166**	**0.0000**	**77.0591**	**77.0591**	**0.0233**	**0.0000**	**77.6420**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.8 AF - Utilities - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8500e-003	0.0271	0.0244	3.0000e-005		1.8400e-003	1.8400e-003		1.6900e-003	1.6900e-003	0.0000	2.8496	2.8496	9.2000e-004	0.0000	2.8727
Total	**2.8500e-003**	**0.0271**	**0.0244**	**3.0000e-005**		**1.8400e-003**	**1.8400e-003**		**1.6900e-003**	**1.6900e-003**	**0.0000**	**2.8496**	**2.8496**	**9.2000e-004**	**0.0000**	**2.8727**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	2.8500e-003	0.0271	0.0244	3.0000e-005		1.8400e-003	1.8400e-003		1.6900e-003	1.6900e-003	0.0000	2.8496	2.8496	9.2000e-004	0.0000	2.8727
Total	**2.8500e-003**	**0.0271**	**0.0244**	**3.0000e-005**		**1.8400e-003**	**1.8400e-003**		**1.6900e-003**	**1.6900e-003**	**0.0000**	**2.8496**	**2.8496**	**9.2000e-004**	**0.0000**	**2.8727**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.9 AF - Foundation Pour - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1600e-003	0.0109	0.0125	2.0000e-005		6.1000e-004	6.1000e-004		5.7000e-004	5.7000e-004	0.0000	1.5367	1.5367	4.6000e-004	0.0000	1.5482
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1600e-003**	**0.0109**	**0.0125**	**2.0000e-005**		**6.1000e-004**	**6.1000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**1.5367**	**1.5367**	**4.6000e-004**	**0.0000**	**1.5482**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	1.1600e-003	0.0109	0.0125	2.0000e-005		6.1000e-004	6.1000e-004		5.7000e-004	5.7000e-004	0.0000	1.5367	1.5367	4.6000e-004	0.0000	1.5482
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.1600e-003**	**0.0109**	**0.0125**	**2.0000e-005**		**6.1000e-004**	**6.1000e-004**		**5.7000e-004**	**5.7000e-004**	**0.0000**	**1.5367**	**1.5367**	**4.6000e-004**	**0.0000**	**1.5482**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

Operational Emissions Modeled Separately

C2. CalEEMod - Operational

Colfax - Operation Only

Placer-Mountain Counties County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.40	Acre	0.40	17,424.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	610.93	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - Modeled Separately

Off-road Equipment - Equipment provided

Off-road Equipment - Modeled Separately

Trips and VMT - Modeled Separately

Grading -

Vehicle Trips - Modeled Outside of CalEEMod

Construction Off-road Equipment Mitigation -

Energy Use - See Assumptions

Solid Waste - See Assumptions

Energy Mitigation - See Assumptions

Area Coating - no buildings

Water And Wastewater - See Assumptions

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblEnergyUse	NT24E	0.00	0.49
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	610.93
tblSolidWaste	SolidWasteGenerationRate	0.00	20.00
tblWater	OutdoorWaterUseRate	0.00	20,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Construction Emissions Modeled Separately

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	6.1800e-003	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-005	9.0000e-005	0.0000		9.0000e-005
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
Total	**6.1800e-003**	**0.0000**	**4.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0000**	**9.0000e-005**

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	6.1800e-003	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-005	9.0000e-005	0.0000		9.0000e-005
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
Total	**6.1800e-003**	**0.0000**	**4.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0000**	**9.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Emissions Modeled Separately

4.0 Operational Detail - Mobile

Modeled Outside of CalEEMod

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

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	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 Non-Asphalt Surfaces	0.494811	0.040252	0.220236	0.128508	0.023782	0.006284	0.029295	0.046215	0.001446	0.001205	0.005961	0.000773	0.001232

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

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

NaturalGas Mitigated	0.0000	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 Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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 Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	6.1800e-003	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-005	9.0000e-005	0.0000		9.0000e-005
Unmitigated	6.1800e-003	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-005	9.0000e-005	0.0000		9.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.1700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-005	9.0000e-005	0.0000		9.0000e-005
Total	**6.1700e-003**	**0.0000**	**4.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**9.0000e-005**	**9.0000e-005**	**0.0000**		**9.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.1700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-005	9.0000e-005	0.0000		9.0000e-005
Total	**6.1700e-003**	**0.0000**	**4.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**9.0000e-005**	**9.0000e-005**	**0.0000**		**9.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

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

Colfax - Operation Only

Placer-Mountain Counties County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.40	Acre	0.40	17,424.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	610.93	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - Modeled Separately

Off-road Equipment - Equipment provided

Off-road Equipment - Modeled Separately

Trips and VMT - Modeled Separately

Grading -

Vehicle Trips - Modeled Outside of CalEEMod

Construction Off-road Equipment Mitigation -

Energy Use - See Assumptions

Solid Waste - See Assumptions

Energy Mitigation - See Assumptions

Area Coating - no buildings

Water And Wastewater - See Assumptions

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblEnergyUse	NT24E	0.00	0.49
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	610.93
tblSolidWaste	SolidWasteGenerationRate	0.00	20.00
tblWater	OutdoorWaterUseRate	0.00	20,000.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Construction Modeled Separately

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	6.1800e-003	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-005	9.0000e-005	0.0000		9.0000e-005
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
Total	**6.1800e-003**	**0.0000**	**4.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0000**	**9.0000e-005**

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	6.1800e-003	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-005	9.0000e-005	0.0000		9.0000e-005
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
Total	**6.1800e-003**	**0.0000**	**4.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**9.0000e-005**	**9.0000e-005**	**0.0000**	**0.0000**	**9.0000e-005**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Modeled Separately

4.0 Operational Detail - Mobile

Mobile Source Emissions Modeled Outside of CalEEMod

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
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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	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 Non-Asphalt Surfaces	0.494811	0.040252	0.220236	0.128508	0.023782	0.006284	0.029295	0.046215	0.001446	0.001205	0.005961	0.000773	0.001232

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	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 Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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 Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	6.1800e-003	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-005	9.0000e-005	0.0000		9.0000e-005
Unmitigated	6.1800e-003	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-005	9.0000e-005	0.0000		9.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.1700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-005	9.0000e-005	0.0000		9.0000e-005

Total	**6.1700e-003**	**0.0000**	**4.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**9.0000e-005**	**9.0000e-005**	**0.0000**		**9.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.1700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	4.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000		9.0000e-005	9.0000e-005	0.0000		9.0000e-005
Total	**6.1700e-003**	**0.0000**	**4.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**9.0000e-005**	**9.0000e-005**	**0.0000**		**9.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

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

Colfax - Operation Only

Placer-Mountain Counties County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	0.40	Acre	0.40	17,424.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	610.93	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - See Assumptions

Land Use - See Assumptions

Construction Phase - Modeled Separately

Off-road Equipment - Equipment provided

Off-road Equipment - Modeled Separately

Trips and VMT - Modeled Separately

Grading -

Vehicle Trips - Modeled Outside of CalEEMod

Construction Off-road Equipment Mitigation -

Energy Use - See Assumptions

Solid Waste - See Assumptions

Energy Mitigation - See Assumptions

Area Coating - no buildings

Water And Wastewater - See Assumptions

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Residential_Interior	100	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblEnergyUse	NT24E	0.00	0.49
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	610.93
tblSolidWaste	SolidWasteGenerationRate	0.00	20.00
tblWater	OutdoorWaterUseRate	0.00	20,000.00

2.0 Emissions Summary

2.1 Overall Construction

Construction Emissions Modeled Separately

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	1.1300e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3555	2.3555	1.1000e-004	2.0000e-005	2.3652

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	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	4.0598	0.0000	4.0598	0.2399	0.0000	10.0580
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0194	0.0194	0.0000	0.0000	0.0195
Total	**1.1300e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.0598**	**2.3749**	**6.4347**	**0.2400**	**2.0000e-005**	**12.4427**

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	1.1300e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	-274.7577	-274.7577	-0.0130	-0.0027	-275.8879
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	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	4.0598	0.0000	4.0598	0.2399	0.0000	10.0580
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0194	0.0194	0.0000	0.0000	0.0195
Total	**1.1300e-003**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.0598**	**-274.7383**	**-270.6785**	**0.2269**	**-0.0027**	**-265.8104**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**11,668.42**	**4,306.53**	**5.48**	**13,600.00**	**2,236.28**

3.0 Construction Detail

Construction Emissions Modeled Separately

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Mobile Emissions Modeled Outside of CalEEMod

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	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	0.0000

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	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 Non-Asphalt Surfaces	0.494811	0.040252	0.220236	0.128508	0.023782	0.006284	0.029295	0.046215	0.001446	0.001205	0.005961	0.000773	0.001232

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	-274.7577	-274.7577	-0.0130	-0.0027	-275.8879
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2.3555	2.3555	1.1000e-004	2.0000e-005	2.3652
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	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	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	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	8500.1	2.3555	1.1000e-004	2.0000e-005	2.3652
Total		**2.3555**	**1.1000e-004**	**2.0000e-005**	**2.3652**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	-991500	-274.7577	-0.0130	-0.0027	-275.8879
Total		**-274.7577**	**-0.0130**	**-0.0027**	**-275.8879**

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	tons/yr										MT/yr					
Mitigated	1.1300e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Unmitigated	1.1300e-003	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**1.1300e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	0.0000	1.0000e-005
Total	**1.1300e-003**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0194	0.0000	0.0000	0.0195
Unmitigated	0.0194	0.0000	0.0000	0.0195

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0.02	0.0194	0.0000	0.0000	0.0195
Total		**0.0194**	**0.0000**	**0.0000**	**0.0195**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0.02	0.0194	0.0000	0.0000	0.0195
Total		**0.0194**	**0.0000**	**0.0000**	**0.0195**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.0598	0.2399	0.0000	10.0580
Unmitigated	4.0598	0.2399	0.0000	10.0580

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	20	4.0598	0.2399	0.0000	10.0580
Total		**4.0598**	**0.2399**	**0.0000**	**10.0580**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	20	4.0598	0.2399	0.0000	10.0580
Total		**4.0598**	**0.2399**	**0.0000**	**10.0580**

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

C3. EMFAC2017

Colfax
Total On-Road Emissions

Colfax

Total On-Road Emissions

260 Max construction days per year

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Idling per Day (minutes)
Solar - Site Preparation	2021				
Total Haul Trips	36				
Hauling	12	3	11	20	15
Vendor	3	5	11	7.3	15
Worker	8	5	11	10.8	0
Solar - Grading	2021				
Total Haul Trips	0				
Hauling	0	5	11	20	15
Vendor	0	5	11	7.3	15
Worker	8	5	11	10.8	0
Solar - Utilities	2021				
Total Haul Trips	0				
Hauling	0	10	11	20	15
Vendor	0	10	11	7.3	15
Worker	8	10	11	10.8	0
Solar - Foundation	2021				
Total Haul Trips	13				
Hauling	7	2	11	20	15
Vendor	0	10	11	7.3	15
Worker	8	10	11	10.8	0
Pipeline - Utilities	2021				
Total Haul Trips	0				
Hauling	0	109	11	20	15
Vendor	3	109	11	7.3	15
Worker	16	109	11	10.8	0
Pipeline - Trenchless Rehab	2021				
Total Haul Trips	0				
Hauling	0	109	11	20	15
Vendor	0	109	11	7.3	15
Worker	12	109	11	10.8	0
Pipeline - Paving	2021				
Total Haul Trips	0				
Hauling	0	109	11	20	15
Vendor	5	109	11	7.3	15
Worker	10	109	11	10.8	0
AF - Utilities	2021				
Total Haul Trips	0				
Hauling	0	10	11	20	15
Vendor	1	10	11	7.3	15
Worker	6	10	11	10.8	0
AF - Foundation	2021				
Total Haul Trips	7				
Hauling	7	1	11	20	15
Vendor	1	10	11	7.3	15
Worker	6	10	11	10.8	0

Colfax

Total On-Road Emissions

260 Max construction days per year

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Idling per Day (minutes)
Operational - Maintenance	2021				
Total Haul Trips	0				
Hauling	1	12	8	60	15
Vendor	0	12	8	7.3	15
Worker	0	12	8	10.8	0
Operational - Panel Washing	2021				
Total Haul Trips	0				
Hauling	12	8	8	60	15
Vendor	0	8	8	7.3	15
Worker	4	8	8	60	0

Colfax

Total On-Road Emissions

Construction Phase	Regional Emissions (pounds/day)										(MT/yr)
	ROG	NOX	CO	SO2	PM10 Dust	PM10 Exh	Total PM10	PM2.5 Dust	PM2.5 Exh	Total PM2.5	Total CO2e
Solar - Site Preparation											
Total Haul Trips											
Hauling	0.16	3.27	1.64	0.01	0.21	0.03	0.24	0.06	0.03	0.09	1.48
Vendor	0.02	0.33	0.21	0.00	0.02	0.00	0.02	0.01	0.00	0.01	0.23
Worker	0.00	0.01	0.16	0.00	0.07	0.00	0.07	0.02	0.00	0.02	0.13
Solar - Grading											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.01	0.16	0.00	0.07	0.00	0.07	0.02	0.00	0.02	0.13
Solar - Utilities											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.01	0.16	0.00	0.07	0.00	0.07	0.02	0.00	0.02	0.26
Solar - Foundation											
Total Haul Trips											
Hauling	0.10	1.91	0.96	0.01	0.12	0.02	0.14	0.03	0.02	0.05	0.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.01	0.16	0.00	0.07	0.00	0.07	0.02	0.00	0.02	0.26
Pipeline - Utilities											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.02	0.33	0.21	0.00	0.02	0.00	0.02	0.01	0.00	0.01	4.99
Worker	0.01	0.03	0.33	0.00	0.13	0.00	0.13	0.03	0.00	0.04	5.56
Pipeline - Trenchless Rehab											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.02	0.24	0.00	0.10	0.00	0.10	0.03	0.00	0.03	4.17
Pipeline - Paving											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.03	0.55	0.35	0.00	0.03	0.00	0.04	0.01	0.00	0.01	8.31
Worker	0.00	0.02	0.20	0.00	0.08	0.00	0.08	0.02	0.00	0.02	3.48
AF - Utilities											
Total Haul Trips											
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.11	0.07	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.15
Worker	0.00	0.01	0.12	0.00	0.05	0.00	0.05	0.01	0.00	0.01	0.19
AF - Foundation											
Total Haul Trips											
Hauling	0.10	1.91	0.96	0.01	0.12	0.02	0.14	0.03	0.02	0.05	0.29
Vendor	0.01	0.11	0.07	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.15
Worker	0.00	0.01	0.12	0.00	0.05	0.00	0.05	0.01	0.00	0.01	0.19

Colfax

Total On-Road Emissions

Construction Phase	Regional Emissions (pounds/day)										(MT/yr)
	ROG	NOX	CO	SO2	PM10 Dust	PM10 Exh	Total PM10	PM2.5 Dust	PM2.5 Exh	Total PM2.5	Total CO2e
Operational - Maintenance											
Total Haul Trips											
Hauling	0.02	0.59	0.17	0.00	0.05	0.01	0.06	0.01	0.01	0.02	1.23
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Operational - Panel Washing											
Total Haul Trips											
Hauling	0.27	7.06	2.10	0.02	0.63	0.09	0.72	0.17	0.08	0.26	9.86
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.04	0.45	0.00	0.18	0.00	0.18	0.05	0.00	0.05	0.57

Colfax
Running Emissions

Colfax
Running Emissions

		Running Emissions Factor (grams/mile)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2021Hauling	Hauling	0.10458219	3.57957037	0.4280508	0.0139068	0.05454611	0.05218646
2021Vendor	Vendor	0.12381243	2.99755519	0.48512686	0.01214868	0.05450907	0.05214913
2021Worker	Worker	0.01455457	0.067648658	0.85443735	0.00290377	0.00162997	0.00150153
	GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10	PM2.5
Solar - Site Preparation	2021									
Total Haul Trips	36									
Hauling	12	3	11	20	0.06	1.89	0.23	0.01	0.03	0.03
Vendor	3	5	11	7.3	0.01	0.14	0.02	0.00	0.00	0.00
Worker	8	5	11	10.8	0.00	0.01	0.16	0.00	0.00	0.00
Solar - Grading	2021									
Total Haul Trips	0									
Hauling	0	5	11	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	5	11	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	8	5	11	10.8	0.00	0.01	0.16	0.00	0.00	0.00

Colfax
Running Emissions

		Running Emissions Factor (grams/mile)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2021Hauling	Hauling	0.10458219	3.57957037	0.4280508	0.0139068	0.05454611	0.05218646
2021Vendor	Vendor	0.12381243	2.99755519	0.48512686	0.01214868	0.05450907	0.05214913
2021Worker	Worker	0.01455457	0.067648658	0.85443735	0.00290377	0.00162997	0.00150153
	GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10	PM2.5
Solar - Utilities	2021									
Total Haul Trips	0									
Hauling	0	10	11	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	10	11	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	8	10	11	10.8	0.00	0.01	0.16	0.00	0.00	0.00
Solar - Foundation	2021									
Total Haul Trips	13									
Hauling	7	2	11	20	0.03	1.10	0.13	0.00	0.02	0.02
Vendor	0	10	11	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	8	10	11	10.8	0.00	0.01	0.16	0.00	0.00	0.00

Colfax
Running Emissions

		Running Emissions Factor (grams/mile)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2021Hauling	Hauling	0.10458219	3.57957037	0.4280508	0.0139068	0.05454611	0.05218646
2021Vendor	Vendor	0.12381243	2.99755519	0.48512686	0.01214868	0.05450907	0.05214913
2021Worker	Worker	0.01455457	0.067648658	0.85443735	0.00290377	0.00162997	0.00150153
	GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)					
					ROG	NOX	CO	SO2	PM10	PM2.5
Pipeline - Utilities	2021									
Total Haul Trips	0									
Hauling	0	109	11	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	3	109	11	7.3	0.01	0.14	0.02	0.00	0.00	0.00
Worker	16	109	11	10.8	0.01	0.03	0.33	0.00	0.00	0.00
Pipeline - Trenchless Rehab	2021									
Total Haul Trips	0									
Hauling	0	109	11	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	109	11	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	12	109	11	10.8	0.00	0.02	0.24	0.00	0.00	0.00

Colfax
Running Emissions

		Running Emissions Factor (grams/mile)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2021Hauling	Hauling	0.10458219	3.57957037	0.4280508	0.0139068	0.05454611	0.05218646
2021Vendor	Vendor	0.12381243	2.99755519	0.48512686	0.01214868	0.05450907	0.05214913
2021Worker	Worker	0.01455457	0.067648658	0.85443735	0.00290377	0.00162997	0.00150153
	GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)					
					ROG	NOX	CO	SO2	PM10	PM2.5
Pipeline - Paving	2021									
Total Haul Trips	0									
Hauling	0	109	11	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	5	109	11	7.3	0.01	0.24	0.04	0.00	0.00	0.00
Worker	10	109	11	10.8	0.00	0.02	0.20	0.00	0.00	0.00
AF - Utilities	2021									
Total Haul Trips	0									
Hauling	0	10	11	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	1	10	11	7.3	0.00	0.05	0.01	0.00	0.00	0.00
Worker	6	10	11	10.8	0.00	0.01	0.12	0.00	0.00	0.00

Colfax
Running Emissions

		Running Emissions Factor (grams/mile)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2021Hauling	Hauling	0.10458219	3.57957037	0.4280508	0.0139068	0.05454611	0.05218646
2021Vendor	Vendor	0.12381243	2.99755519	0.48512686	0.01214868	0.05450907	0.05214913
2021Worker	Worker	0.01455457	0.067648658	0.85443735	0.00290377	0.00162997	0.00150153
	GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10	PM2.5
AF - Foundation	2021									
Total Haul Trips	7									
Hauling	7	1	11	20	0.03	1.10	0.13	0.00	0.02	0.02
Vendor	1	10	11	7.3	0.00	0.05	0.01	0.00	0.00	0.00
Worker	6	10	11	10.8	0.00	0.01	0.12	0.00	0.00	0.00
Operational - Maintenance	2021									
Total Haul Trips	0									
Hauling	1	12	8	60	0.01	0.47	0.06	0.00	0.01	0.01
Vendor	0	12	8	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0	12	8	10.8	0.00	0.00	0.00	0.00	0.00	0.00

Colfax
Running Emissions

		Running Emissions Factor (grams/mile)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2021Hauling	Hauling	0.10458219	3.57957037	0.4280508	0.0139068	0.05454611	0.05218646
2021Vendor	Vendor	0.12381243	2.99755519	0.48512686	0.01214868	0.05450907	0.05214913
2021Worker	Worker	0.01455457	0.067648658	0.85443735	0.00290377	0.00162997	0.00150153
	GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)					
					ROG	NOX	CO	SO2	PM10	PM2.5
Operational - Panel Washin	2021									
Total Haul Trips	0									
Hauling	12	8	8	60	0.17	5.68	0.68	0.02	0.09	0.08
Vendor	0	8	8	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	4	8	8	60	0.01	0.04	0.45	0.00	0.00	0.00

Colfax
Running Emissions

		Running Emissions Factor (grams/mile)		
		CO2	CH4	N2O
2021Hauling	Hauling	1471.984	0.00487152	0.2313312
2021Vendor	Vendor	1283.0687	0.00625571	0.19323435
2021Worker	Worker	293.508884	0.00349219	0.00629187
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Solar - Site Preparation	2021							
Total Haul Trips	36							
Hauling	12	3	11	20	1.06	0.00	0.05	1.11
Vendor	3	5	11	7.3	0.14	0.00	0.01	0.15
Worker	8	5	11	10.8	0.13	0.00	0.00	0.13
Solar - Grading	2021							
Total Haul Trips	0							
Hauling	0	5	11	20	0.00	0.00	0.00	0.00
Vendor	0	5	11	7.3	0.00	0.00	0.00	0.00
Worker	8	5	11	10.8	0.13	0.00	0.00	0.13

Colfax
Running Emissions

		Running Emissions Factor (grams/mile)		
		CO2	CH4	N2O
2021Hauling	Hauling	1471.984	0.00487152	0.2313312
2021Vendor	Vendor	1283.0687	0.00625571	0.19323435
2021Worker	Worker	293.508884	0.00349219	0.00629187
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Solar - Utilities	2021							
Total Haul Trips	0							
Hauling	0	10	11	20	0.00	0.00	0.00	0.00
Vendor	0	10	11	7.3	0.00	0.00	0.00	0.00
Worker	8	10	11	10.8	0.25	0.00	0.00	0.26
Solar - Foundation	2021							
Total Haul Trips	13							
Hauling	7	2	11	20	0.41	0.00	0.02	0.43
Vendor	0	10	11	7.3	0.00	0.00	0.00	0.00
Worker	8	10	11	10.8	0.25	0.00	0.00	0.26

Colfax
Running Emissions

		Running Emissions Factor (grams/mile)		
		CO2	CH4	N2O
2021Hauling	Hauling	1471.984	0.00487152	0.2313312
2021Vendor	Vendor	1283.0687	0.00625571	0.19323435
2021Worker	Worker	293.508884	0.00349219	0.00629187
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Pipeline - Utilities	2021							
Total Haul Trips	0							
Hauling	0	109	11	20	0.00	0.00	0.00	0.00
Vendor	3	109	11	7.3	3.06	0.00	0.13	3.20
Worker	16	109	11	10.8	5.53	0.00	0.03	5.56
Pipeline - Trenchless Rehab	2021							
Total Haul Trips	0							
Hauling	0	109	11	20	0.00	0.00	0.00	0.00
Vendor	0	109	11	7.3	0.00	0.00	0.00	0.00
Worker	12	109	11	10.8	4.15	0.00	0.03	4.17

Colfax
Running Emissions

		Running Emissions Factor (grams/mile)		
		CO2	CH4	N2O
2021Hauling	Hauling	1471.984	0.00487152	0.2313312
2021Vendor	Vendor	1283.0687	0.00625571	0.19323435
2021Worker	Worker	293.508884	0.00349219	0.00629187
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Pipeline - Paving	2021							
Total Haul Trips	0							
Hauling	0	109	11	20	0.00	0.00	0.00	0.00
Vendor	5	109	11	7.3	5.10	0.00	0.22	5.33
Worker	10	109	11	10.8	3.46	0.00	0.02	3.48
AF - Utilities	2021							
Total Haul Trips	0							
Hauling	0	10	11	20	0.00	0.00	0.00	0.00
Vendor	1	10	11	7.3	0.09	0.00	0.00	0.10
Worker	6	10	11	10.8	0.19	0.00	0.00	0.19

Colfax
Running Emissions

		Running Emissions Factor (grams/mile)		
		CO2	CH4	N2O
2021Hauling	Hauling	1471.984	0.00487152	0.2313312
2021Vendor	Vendor	1283.0687	0.00625571	0.19323435
2021Worker	Worker	293.508884	0.00349219	0.00629187
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
AF - Foundation	2021							
Total Haul Trips	7							
Hauling	7	1	11	20	0.21	0.00	0.01	0.22
Vendor	1	10	11	7.3	0.09	0.00	0.00	0.10
Worker	6	10	11	10.8	0.19	0.00	0.00	0.19
Operational - Maintenance	2021							
Total Haul Trips	0							
Hauling	1	12	8	60	1.06	0.00	0.05	1.11
Vendor	0	12	8	7.3	0.00	0.00	0.00	0.00
Worker	0	12	8	10.8	0.00	0.00	0.00	0.00

Colfax
Running Emissions

		Running Emissions Factor (grams/mile)		
		CO2	CH4	N2O
2021Hauling	Hauling	1471.984	0.00487152	0.2313312
2021Vendor	Vendor	1283.0687	0.00625571	0.19323435
2021Worker	Worker	293.508884	0.00349219	0.00629187
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (MT/year)			
					CO2	CH4	N2O	CO2e
Operational - Panel Washin	2021							
Total Haul Trips	0							
Hauling	12	8	8	60	8.48	0.00	0.39	8.87
Vendor	0	8	8	7.3	0.00	0.00	0.00	0.00
Worker	4	8	8	60	0.56	0.00	0.00	0.57

Colfax
Idling Emissions

Colfax
Idling Emissions

		Idling Emissions Factor (grams/minute)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2021Hauling	Hauling	0.27287551	3.476634701	3.56868232	0.0062408	0.00535614	0.00512443
2021Vendor	Vendor	0.14025574	1.891857508	1.85825811	0.0032942	0.00307729	0.00294417
2021Worker	Worker	0	0	0	0	0	0
	GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10	PM2.5
Solar - Site Preparation	2021									
Total Haul Trips	36									
Hauling	12	3	11	15	0.11	1.38	1.42	0.00	0.00	0.00
Vendor	3	5	11	15	0.01	0.19	0.18	0.00	0.00	0.00
Worker	8	5	11	0	0.00	0.00	0.00	0.00	0.00	0.00
Solar - Grading	2021									
Total Haul Trips	0									
Hauling	0	5	11	15	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	5	11	15	0.00	0.00	0.00	0.00	0.00	0.00
Worker	8	5	11	0	0.00	0.00	0.00	0.00	0.00	0.00

Colfax
Idling Emissions

		Idling Emissions Factor (grams/minute)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2021Hauling	Hauling	0.27287551	3.476634701	3.56868232	0.0062408	0.00535614	0.00512443
2021Vendor	Vendor	0.14025574	1.891857508	1.85825811	0.0032942	0.00307729	0.00294417
2021Worker	Worker	0	0	0	0	0	0
	GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10	PM2.5
Solar - Utilities	2021									
Total Haul Trips	0									
Hauling	0	10	11	15	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	10	11	15	0.00	0.00	0.00	0.00	0.00	0.00
Worker	8	10	11	0	0.00	0.00	0.00	0.00	0.00	0.00
Solar - Foundation	2021									
Total Haul Trips	13									
Hauling	7	2	11	15	0.06	0.80	0.83	0.00	0.00	0.00
Vendor	0	10	11	15	0.00	0.00	0.00	0.00	0.00	0.00
Worker	8	10	11	0	0.00	0.00	0.00	0.00	0.00	0.00

Colfax
Idling Emissions

		Idling Emissions Factor (grams/minute)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2021Hauling	Hauling	0.27287551	3.476634701	3.56868232	0.0062408	0.00535614	0.00512443
2021Vendor	Vendor	0.14025574	1.891857508	1.85825811	0.0032942	0.00307729	0.00294417
2021Worker	Worker	0	0	0	0	0	0
	GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10	PM2.5
Pipeline - Utilities	2021									
Total Haul Trips	0									
Hauling	0	109	11	15	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	3	109	11	15	0.01	0.19	0.18	0.00	0.00	0.00
Worker	16	109	11	0	0.00	0.00	0.00	0.00	0.00	0.00
Pipeline - Trenchless Rehab	2021									
Total Haul Trips	0									
Hauling	0	109	11	15	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	109	11	15	0.00	0.00	0.00	0.00	0.00	0.00
Worker	12	109	11	0	0.00	0.00	0.00	0.00	0.00	0.00

Colfax
Idling Emissions

		Idling Emissions Factor (grams/minute)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2021Hauling	Hauling	0.27287551	3.476634701	3.56868232	0.0062408	0.00535614	0.00512443
2021Vendor	Vendor	0.14025574	1.891857508	1.85825811	0.0032942	0.00307729	0.00294417
2021Worker	Worker	0	0	0	0	0	0
	GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10	PM2.5
Pipeline - Paving	2021									
Total Haul Trips	0									
Hauling	0	109	11	15	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	5	109	11	15	0.02	0.31	0.31	0.00	0.00	0.00
Worker	10	109	11	0	0.00	0.00	0.00	0.00	0.00	0.00
AF - Utilities	2021									
Total Haul Trips	0									
Hauling	0	10	11	15	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	1	10	11	15	0.00	0.06	0.06	0.00	0.00	0.00
Worker	6	10	11	0	0.00	0.00	0.00	0.00	0.00	0.00

Colfax
Idling Emissions

		Idling Emissions Factor (grams/minute)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2021Hauling	Hauling	0.27287551	3.476634701	3.56868232	0.0062408	0.00535614	0.00512443
2021Vendor	Vendor	0.14025574	1.891857508	1.85825811	0.0032942	0.00307729	0.00294417
2021Worker	Worker	0	0	0	0	0	0
	GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (pounds/day) ROG	NOX	CO	SO2	PM10	PM2.5
AF - Foundation	2021									
Total Haul Trips	7									
Hauling	7	1	11	15	0.06	0.80	0.83	0.00	0.00	0.00
Vendor	1	10	11	15	0.00	0.06	0.06	0.00	0.00	0.00
Worker	6	10	11	0	0.00	0.00	0.00	0.00	0.00	0.00
Operational - Maintenance	2021									
Total Haul Trips	0									
Hauling	1	12	8	15	0.01	0.11	0.12	0.00	0.00	0.00
Vendor	0	12	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0	12	8	0	0.00	0.00	0.00	0.00	0.00	0.00

Colfax
Idling Emissions

		Idling Emissions Factor (grams/minute)					
		ROG	NOX	CO	SO2	PM10	PM2.5
2021Hauling	Hauling	0.27287551	3.476634701	3.56868232	0.0062408	0.00535614	0.00512443
2021Vendor	Vendor	0.14025574	1.891857508	1.85825811	0.0032942	0.00307729	0.00294417
2021Worker	Worker	0	0	0	0	0	0
	GWP	N/A	N/A	N/A	N/A	N/A	N/A

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (pounds/day)					
					ROG	NOX	CO	SO2	PM10	PM2.5
Operational - Panel Washin	2021									
Total Haul Trips	0									
Hauling	12	8	8	15	0.11	1.38	1.42	0.00	0.00	0.00
Vendor	0	8	8	15	0.00	0.00	0.00	0.00	0.00	0.00
Worker	4	8	8	0	0.00	0.00	0.00	0.00	0.00	0.00

Colfax
Idling Emissions

		Idling Emissions Factor (grams/minute)		
		CO2	CH4	N2O
2021Hauling	Hauling	660.57656	0.01267436	0.10383344
2021Vendor	Vendor	348.641445	0.00687289	0.054671
2021Worker	Worker	0	0	0
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Solar - Site Preparation	2021							
Total Haul Trips	36							
Hauling	12	3	11	15	0.36	0.00	0.02	0.37
Vendor	3	5	11	15	0.08	0.00	0.00	0.08
Worker	8	5	11	0	0.00	0.00	0.00	0.00
Solar - Grading	2021							
Total Haul Trips	0							
Hauling	0	5	11	15	0.00	0.00	0.00	0.00
Vendor	0	5	11	15	0.00	0.00	0.00	0.00
Worker	8	5	11	0	0.00	0.00	0.00	0.00

Colfax
Idling Emissions

		Idling Emissions Factor (grams/minute)		
		CO2	CH4	N2O
2021Hauling	Hauling	660.57656	0.01267436	0.10383344
2021Vendor	Vendor	348.641445	0.00687289	0.054671
2021Worker	Worker	0	0	0
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Solar - Utilities	2021							
Total Haul Trips	0							
Hauling	0	10	11	15	0.00	0.00	0.00	0.00
Vendor	0	10	11	15	0.00	0.00	0.00	0.00
Worker	8	10	11	0	0.00	0.00	0.00	0.00
Solar - Foundation	2021							
Total Haul Trips	13							
Hauling	7	2	11	15	0.14	0.00	0.01	0.15
Vendor	0	10	11	15	0.00	0.00	0.00	0.00
Worker	8	10	11	0	0.00	0.00	0.00	0.00

Colfax
Idling Emissions

		Idling Emissions Factor (grams/minute)		
		CO2	CH4	N2O
2021Hauling	Hauling	660.57656	0.01267436	0.10383344
2021Vendor	Vendor	348.641445	0.00687289	0.054671
2021Worker	Worker	0	0	0
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Pipeline - Utilities	2021							
Total Haul Trips	0							
Hauling	0	109	11	15	0.00	0.00	0.00	0.00
Vendor	3	109	11	15	1.71	0.00	0.08	1.79
Worker	16	109	11	0	0.00	0.00	0.00	0.00
Pipeline - Trenchless Rehab	2021							
Total Haul Trips	0							
Hauling	0	109	11	15	0.00	0.00	0.00	0.00
Vendor	0	109	11	15	0.00	0.00	0.00	0.00
Worker	12	109	11	0	0.00	0.00	0.00	0.00

Colfax
Idling Emissions

		Idling Emissions Factor (grams/minute)		
		CO2	CH4	N2O
2021Hauling	Hauling	660.57656	0.01267436	0.10383344
2021Vendor	Vendor	348.641445	0.00687289	0.054671
2021Worker	Worker	0	0	0
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Pipeline - Paving	2021							
Total Haul Trips	0							
Hauling	0	109	11	15	0.00	0.00	0.00	0.00
Vendor	5	109	11	15	2.85	0.00	0.13	2.98
Worker	10	109	11	0	0.00	0.00	0.00	0.00
AF - Utilities	2021							
Total Haul Trips	0							
Hauling	0	10	11	15	0.00	0.00	0.00	0.00
Vendor	1	10	11	15	0.05	0.00	0.00	0.05
Worker	6	10	11	0	0.00	0.00	0.00	0.00

Colfax
Idling Emissions

		Idling Emissions Factor (grams/minute)		
		CO2	CH4	N2O
2021Hauling	Hauling	660.57656	0.01267436	0.10383344
2021Vendor	Vendor	348.641445	0.00687289	0.054671
2021Worker	Worker	0	0	0
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
AF - Foundation	2021							
Total Haul Trips	7							
Hauling	7	1	11	15	0.07	0.00	0.00	0.07
Vendor	1	10	11	15	0.05	0.00	0.00	0.05
Worker	6	10	11	0	0.00	0.00	0.00	0.00
Operational - Maintenance	2021							
Total Haul Trips	0							
Hauling	1	12	8	15	0.12	0.00	0.01	0.12
Vendor	0	12	8	15	0.00	0.00	0.00	0.00
Worker	0	12	8	0	0.00	0.00	0.00	0.00

Colfax
Idling Emissions

		Idling Emissions Factor (grams/minute)		
		CO2	CH4	N2O
2021Hauling	Hauling	660.57656	0.01267436	0.10383344
2021Vendor	Vendor	348.641445	0.00687289	0.054671
2021Worker	Worker	0	0	0
	GWP	1	25	290

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	Idling minutes per Day (miles)	Regional Emissions (MT/year) CO2	CH4	N2O	CO2e
Operational - Panel Washin	2021							
Total Haul Trips	0							
Hauling	12	8	8	15	0.95	0.00	0.04	1.00
Vendor	0	8	8	15	0.00	0.00	0.00	0.00
Worker	4	8	8	0	0.00	0.00	0.00	0.00

Colfax
Road Dust, Break Wear, and Tire wear Emissions

Colfax
Road Dust, Break Wear, and Tire wear Emissions

	Emission Factors (grams/mile)					
	PM10			PM2.5		
	RD	BW	TW	RD	BW	TW
2021Hauling Hauling	3.00E-01	0.061155076	0.03565507	7.36E-02	0.02620932	0.00891377
2021Vendor Vendor	3.00E-01	0.095747557	0.02382754	7.36E-02	0.04103467	0.00595688
2021Worker Worker	3.00E-01	0.036750011	0.008	7.36E-02	0.01575	0.002

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)					
					PM10			PM2.5		
					RD	BW	TW	RD	BW	TW
Solar - Site Preparation	2021									
Total Haul Trips	36									
Hauling	12	3	11	20	0.16	0.03	0.02	0.04	0.01	0.00
Vendor	3	5	11	7.3	0.01	0.00	0.00	0.00	0.00	0.00
Worker	8	5	11	10.8	0.06	0.01	0.00	0.01	0.00	0.00
Solar - Grading	2021									
Total Haul Trips	0									
Hauling	0	5	11	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	5	11	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	8	5	11	10.8	0.06	0.01	0.00	0.01	0.00	0.00

Colfax
Road Dust, Break Wear, and Tire wear Emissions

	Emission Factors (grams/mile)					
	PM10			PM2.5		
	RD	BW	TW	RD	BW	TW
2021Hauling Hauling	3.00E-01	0.061155076	0.03565507	7.36E-02	0.02620932	0.00891377
2021Vendor Vendor	3.00E-01	0.095747557	0.02382754	7.36E-02	0.04103467	0.00595688
2021Worker Worker	3.00E-01	0.036750011	0.008	7.36E-02	0.01575	0.002

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)					
					PM10			PM2.5		
					RD	BW	TW	RD	BW	TW
Solar - Utilities	2021									
Total Haul Trips	0									
Hauling	0	10	11	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	10	11	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	8	10	11	10.8	0.06	0.01	0.00	0.01	0.00	0.00
Solar - Foundation	2021									
Total Haul Trips	13									
Hauling	7	2	11	20	0.09	0.02	0.01	0.02	0.01	0.00
Vendor	0	10	11	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	8	10	11	10.8	0.06	0.01	0.00	0.01	0.00	0.00

Colfax
Road Dust, Break Wear, and Tire wear Emissions

	Emission Factors (grams/mile)					
	PM10			PM2.5		
	RD	BW	TW	RD	BW	TW
2021Hauling Hauling	3.00E-01	0.061155076	0.03565507	7.36E-02	0.02620932	0.00891377
2021Vendor Vendor	3.00E-01	0.095747557	0.02382754	7.36E-02	0.04103467	0.00595688
2021Worker Worker	3.00E-01	0.036750011	0.008	7.36E-02	0.01575	0.002

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)					
					PM10			PM2.5		
					RD	BW	TW	RD	BW	TW
Pipeline - Utilities	2021									
Total Haul Trips	0									
Hauling	0	109	11	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	3	109	11	7.3	0.01	0.00	0.00	0.00	0.00	0.00
Worker	16	109	11	10.8	0.11	0.01	0.00	0.03	0.01	0.00
Pipeline - Trenchless Rehab	2021									
Total Haul Trips	0									
Hauling	0	109	11	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0	109	11	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	12	109	11	10.8	0.09	0.01	0.00	0.02	0.00	0.00

Colfax
Road Dust, Break Wear, and Tire wear Emissions

	Emission Factors (grams/mile)					
	PM10			PM2.5		
	RD	BW	TW	RD	BW	TW
2021Hauling Hauling	3.00E-01	0.061155076	0.03565507	7.36E-02	0.02620932	0.00891377
2021Vendor Vendor	3.00E-01	0.095747557	0.02382754	7.36E-02	0.04103467	0.00595688
2021Worker Worker	3.00E-01	0.036750011	0.008	7.36E-02	0.01575	0.002

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)					
					PM10			PM2.5		
					RD	BW	TW	RD	BW	TW
Pipeline - Paving	2021									
Total Haul Trips	0									
Hauling	0	109	11	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	5	109	11	7.3	0.02	0.01	0.00	0.01	0.00	0.00
Worker	10	109	11	10.8	0.07	0.01	0.00	0.02	0.00	0.00
AF - Utilities	2021									
Total Haul Trips	0									
Hauling	0	10	11	20	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	1	10	11	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	6	10	11	10.8	0.04	0.01	0.00	0.01	0.00	0.00

Colfax
Road Dust, Break Wear, and Tire wear Emissions

	Emission Factors (grams/mile)					
	PM10			PM2.5		
	RD	BW	TW	RD	BW	TW
2021Hauling Hauling	3.00E-01	0.061155076	0.03565507	7.36E-02	0.02620932	0.00891377
2021Vendor Vendor	3.00E-01	0.095747557	0.02382754	7.36E-02	0.04103467	0.00595688
2021Worker Worker	3.00E-01	0.036750011	0.008	7.36E-02	0.01575	0.002

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)					
					PM10			PM2.5		
					RD	BW	TW	RD	BW	TW
AF - Foundation	2021									
Total Haul Trips	7									
Hauling	7	1	11	20	0.09	0.02	0.01	0.02	0.01	0.00
Vendor	1	10	11	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	6	10	11	10.8	0.04	0.01	0.00	0.01	0.00	0.00
Operational - Maintenance	2021									
Total Haul Trips	0									
Hauling	1	12	8	60	0.04	0.01	0.00	0.01	0.00	0.00
Vendor	0	12	8	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0	12	8	10.8	0.00	0.00	0.00	0.00	0.00	0.00

Colfax
Road Dust, Break Wear, and Tire wear Emissions

	Emission Factors (grams/mile)					
	PM10			PM2.5		
	RD	BW	TW	RD	BW	TW
2021Hauling Hauling	3.00E-01	0.061155076	0.03565507	7.36E-02	0.02620932	0.00891377
2021Vendor Vendor	3.00E-01	0.095747557	0.02382754	7.36E-02	0.04103467	0.00595688
2021Worker Worker	3.00E-01	0.036750011	0.008	7.36E-02	0.01575	0.002

Construction Phase	Daily One-Way Trips	Haul Days per Phase (days)	Work Hours per Day (hours/day)	One-Way Trip Distance per Day (miles)	Regional Emissions (pounds/day)					
					PM10			PM2.5		
					RD	BW	TW	RD	BW	TW
Operational - Panel Washin	2021									
Total Haul Trips	0									
Hauling	12	8	8	60	0.48	0.10	0.06	0.12	0.04	0.01
Vendor	0	8	8	7.3	0.00	0.00	0.00	0.00	0.00	0.00
Worker	4	8	8	60	0.16	0.02	0.00	0.04	0.01	0.00

Colfax
Road Dust

Colfax
Road Dust

Paved Road Dust Emission Factors (Assumes No Precipitation)

Formula: $EF_{Dust,P} = (k\ (sL)^{0.91} \times (W)^{1.02})$

Where:

$EF_{Dust,P}$ =	Paved Road Dust Emission Factor (having the same units as k)
k =	particle size multiplier
sL =	road surface silt loading (g/m^2)
W =	average fleet vehicle weight (tons) (CARB uses 2.4 tons as a fleet average vehicle weight factor)

	Emission Factor (grams per VMT)	
	PM10	PM2.5
k	0.9979	0.2449
sL	0.1	0.1
W	2.4	2.4
$EF_{Dust,P}$	3.00E-01	7.36E-02

Unpaved Road Dust Emission Factors (Assumes No Precipitation)

Formula: $EF_{Dust,U} = (k\ (\ s / 12)^{1} \times (Sp / 30)^{0.5} / (M / 0.5)^{0.2}) - C)$

Where:

$EF_{Dust,U}$ =	Unpaved Road Dust Emission Factor (having the same units as k)
k =	particle size multiplier
s =	surface material silt content (%)
Sp =	mean vehicle speed (mph)
M =	surface material moisture content (%)
C =	Emission Factor for 1980s vehicle fleet exhaust, brake wear, and tire wear

	Emission Factor (grams per VMT)	
	PM10	PM2.5
k	816.47	81.65
s	4.3%	4.3%
Sp	15	15
M	0.5%	0.5%
C	0.00047	0.00036
$EF_{Dust,U}$	5.20E+00	5.19E-01

Sources:

SCAQMD, CalEEMod, Version 2011.1.

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PCR Services Corporation, 2013.

ATTACHMENT D

Clean Air Act - Modeling Support

ESA

Colfax
Clean Air Act Emissions Summary

Pollutant	Federal Status	Non-Attainment Rate	Threshold	Emissions (tons/year)		Deminimus Threshold
				Construction	Operational	
Ozone (O_3)	Nonattainment	Moderate	N/A	1.13	0.03	100
Carbon Monoxide (CO)	Maintenane	N/A	N/A	1.21	0.01	100
Oxides of Nitrogen (NOx)	Attainment	N/A	82/55	1.13	0.03	N/A
Reactive Organic Gases(ROG)	N/A	N/A	82/55	0.12	<0.01	N/A
Lead (Pb)	N/A	N/A	N/A	N/A	N/A	N/A
Particulate Matter (PM2.5)	Nonattainment	Moderate	N/A	0.06	<0.01	100
Particulate Matter (PM10)	Attainment	N/A	82/82	0.08	<0.01	N/A
Sulfur Dioxide (SOx)	Attainment	N/A	N/A	2.39E-03	<0.01	N/A

Colfax
Maximum Daily Unmitigated Construction Emissions (tons/year)

CalEEMod	2016.3.2	Title:	Colfax - Construction Only	Date:	5/9/2020
EMFAC	2017	Title:	Colfax	Date:	5/11/2020

Unmitigated - Construction

	ROG	NOx	CO	SOx	PM10 Total	PM2.5 Total
	Max Annual (tons/year)					
Solar	0.00	0.04	0.04	0.00	0.00	0.00
Pipeline	0.11	1.06	1.15	0.00	0.07	0.06
Aeration	0.00	0.03	0.03	0.00	0.00	0.00
Total Annual	0.12	1.13	1.21	0.00	0.08	0.06

		days per phase
Solar	Site Preparation	5
	Grading/Excavation	5
	Drainage/Utilties/Trenching	10
	Foundations/Concrete Pour	10
Pipeline	Drainage/Utilties/Trenching	109
	Trenchless Pipe Rehab	109
	Paving	109
AF	Drainage/Utilties/Trenching	10
	Foundations/Concrete Pour	10

Colfax
Maximum Daily Unmitigated Construction Emissions (tons/year)

Unmitigated - Construction

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
		(lbs/year)									
Solar - Site Preparation	Fugitive	0	0	0	0	0.061	0	0.061	0.00925	0	0.00925
	Off-Road	0.9365	9.479	11.301	0.01555	0	0.559	0.559	0	0.514	0.514
	Hauling	0.81810583	16.3681219	8.21326603	0.04917383	1.04938281	0.15493172	1.2043145	0.28763077	0.14822942	0.4358602
	Vendor	0.09946155	1.6620654	1.03888307	0.00456682	0.10125178	0.01468528	0.1159371	0.02911143	0.01404955	0.043161
	Worker	0.01386173	0.06442837	0.81376349	0.00276554	0.3281959	0.00155238	0.3297483	0.08700101	0.00143005	0.0884311
	Total	1.87	27.57	21.37	0.07	1.54	0.73	2.27	0.41	0.68	1.09
Solar - Grading	Fugitive	0	0	0	0	4.242	0	4.242	0.458	0	0.458
	Off-Road	3.411	40.39	25.195	0.059	0	1.4605	1.4605	0	1.344	1.344
	Hauling	0	0	0	0	0	0	0	0	0	0
	Vendor	0	0	0	0	0	0	0	0	0	0
	Worker	0.01386173	0.06442837	0.81376349	0.00276554	0.3281959	0.00155238	0.3297483	0.08700101	0.00143005	0.0884311
	Total	3.42	40.45	26.01	0.06	4.57	1.46	6.03	0.55	1.35	1.89
Solar - Utilities	Fugitive	0	0	0	0	0	0	0	0	0	0
	Off-Road	4.892	33.97	39.699	0.0565	0	1.854	1.854	0	1.765	1.765
	Hauling	0	0	0	0	0	0	0	0	0	0
	Vendor	0	0	0	0	0	0	0	0	0	0
	Worker	0.02772346	0.12885674	1.62752699	0.00553109	0.6563918	0.00310476	0.6594966	0.17400202	0.0028601	0.1768621
	Total	4.92	34.10	41.33	0.06	0.66	1.86	2.51	0.17	1.77	1.94
Solar - Foundation Pour	Off-Road	6.132	63.462	63.15	0.139	0	3.034	3.034	0	2.799	2.799
	Paving	0	0	0	0	0	0	0	0	0	0
	Hauling	0.9544568	19.0961422	9.5821437	0.05736947	1.22427995	0.18075367	1.4050336	0.33556923	0.17293432	0.5085036
	Vendor	0	0	0	0	0	0	0	0	0	0
	Worker	0.02772346	0.12885674	1.62752699	0.00553109	0.6563918	0.00310476	0.6594966	0.17400202	0.0028601	0.1768621
	Total	7.11	82.69	74.36	0.20	1.88	3.22	5.10	0.51	2.97	3.48

Colfax
Maximum Daily Unmitigated Construction Emissions (tons/year)

Pipeline - Utilities	Fugitive	0	0	0	0	0	0	0	0	0	0
	Off-Road	133.9174	1199.4687	1351.5891	2.1037	0	68.7245	68.7245	0	65.1384	65.1384
	Hauling	0	0	0	0	0	0	0	0	0	0
	Vendor	2.16826181	36.2330257	22.6476509	0.09955672	2.20728879	0.32013916	2.527428	0.63462914	0.3062801	0.9409092
	Worker	0.60437141	2.80907703	35.4800883	0.12057768	14.3093411	0.06768383	14.377025	3.79324393	0.06235013	3.8555941
	Total	136.69	1238.51	1409.72	2.32	16.52	69.11	85.63	4.43	65.51	69.93
Pipeline - Paving	Off-Road	82.7637	826.1982	806.0877	1.8203	0	35.752	35.752	0	33.2559	33.2559
	Paving	0	0	0	0	0	0	0	0	0	0
	Hauling	0	0	0	0	0	0	0	0	0	0
	Vendor	0	0	0	0	0	0	0	0	0	0
	Worker	0.45327856	2.10680778	26.6100662	0.09043326	10.7320058	0.05076287	10.782769	2.84493295	0.0467626	2.8916955
	Total	83.22	828.31	832.70	1.91	10.73	35.80	46.53	2.84	33.30	36.15
Pipeline - Trenching/Rehab	Fugitive	0	0	0	0	0	0	0	0	0	0
	Off-Road	0	0	0	0	0	0	0	0	0	0
	Hauling	0	0	0	0	0	0	0	0	0	0
	Vendor	3.61376968	60.3883761	37.7460849	0.16592787	3.67881466	0.53356527	4.2123799	1.05771523	0.51046684	1.5681821
	Worker	0.37773213	1.75567315	22.1750552	0.07536105	8.94333821	0.04230239	8.9856406	2.37077746	0.03896883	2.4097463
	Total	3.99	62.14	59.92	0.24	12.62	0.58	13.20	3.43	0.55	3.98
AF - Utilities	Fugitive	0	0	0	0	0	0	0	0	0	0
	Off-Road	5.709	54.178	48.704	0.0648	0	3.676	3.676	0	3.382	3.382
	Hauling	0	0	0	0	0	0	0	0	0	0
	Vendor	0.0663077	1.1080436	0.69258871	0.00304455	0.06750119	0.00979019	0.0772914	0.01940762	0.00936636	0.028774
	Worker	0.02079259	0.09664256	1.22064524	0.00414831	0.49229385	0.00232857	0.4946224	0.13050151	0.00214507	0.1326466
	Total	5.80	55.38	50.62	0.07	0.56	3.69	4.25	0.15	3.39	3.54
AF - Foundation Pour	Off-Road	2.313	21.719	24.915	0.0364	0	1.225	1.225	0	1.136	1.136
	Paving	0	0	0	0	0	0	0	0	0	0
	Hauling	0.9544568	19.0961422	9.5821437	0.05736947	1.22427995	0.18075367	1.4050336	0.33556923	0.17293432	0.5085036
	Vendor	0.0663077	1.1080436	0.69258871	0.00304455	0.06750119	0.00979019	0.0772914	0.01940762	0.00936636	0.028774
	Worker	0.02079259	0.09664256	1.22064524	0.00414831	0.49229385	0.00232857	0.4946224	0.13050151	0.00214507	0.1326466
	Total	3.35	42.02	36.41	0.10	1.78	1.42	3.20	0.49	1.32	1.81

Colfax
Unmitigated Operational Impacts

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
	Max (tons/year)					
Area	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Energy	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Mobile	*0.00*	*0.03*	*0.01*	*0.00*	*0.00*	*0.00*
Total	***0.00***	***0.03***	***0.01***	***0.00***	***0.00***	***0.00***

Days per year	
Area	12
Energy	365
Mobile AF	12
Mobile Solar	8

Colfax

Unmitigated Operational Impacts - Project

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
			(lbs/year)			
Area	*0.07*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Energy	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*	*0.00*
Mobile - AF	*0.27*	*7.06*	*2.10*	*0.02*	*0.72*	*0.26*
Mobile - Solar	*2.26*	*56.78*	*20.38*	*0.21*	*7.21*	*2.45*
Total	***2.60***	***63.84***	***22.48***	***0.23***	***7.93***	***2.71***

APPENDIX B:
BIOLOGICAL AND WETLANDS RESOURCE ASSESSMENT

BIOLOGICAL AND WETLANDS RESOURCES ASSESSMENT FOR THE

I&I MITIGATION AND WWTP PROJECT

CITY OF COLFAX, PLACER COUNTY, CALIFORNIA

Prepared for:
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Prepared by:

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Auburn, California 95603
(530) 888-0130

JULY 2020

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

Biological and Wetlands Resources Assessment for the I&I Mitigation and Wastewater Treatment Plant Project, City of Colfax, Placer County, California

INTRODUCTION

Project Location and Background

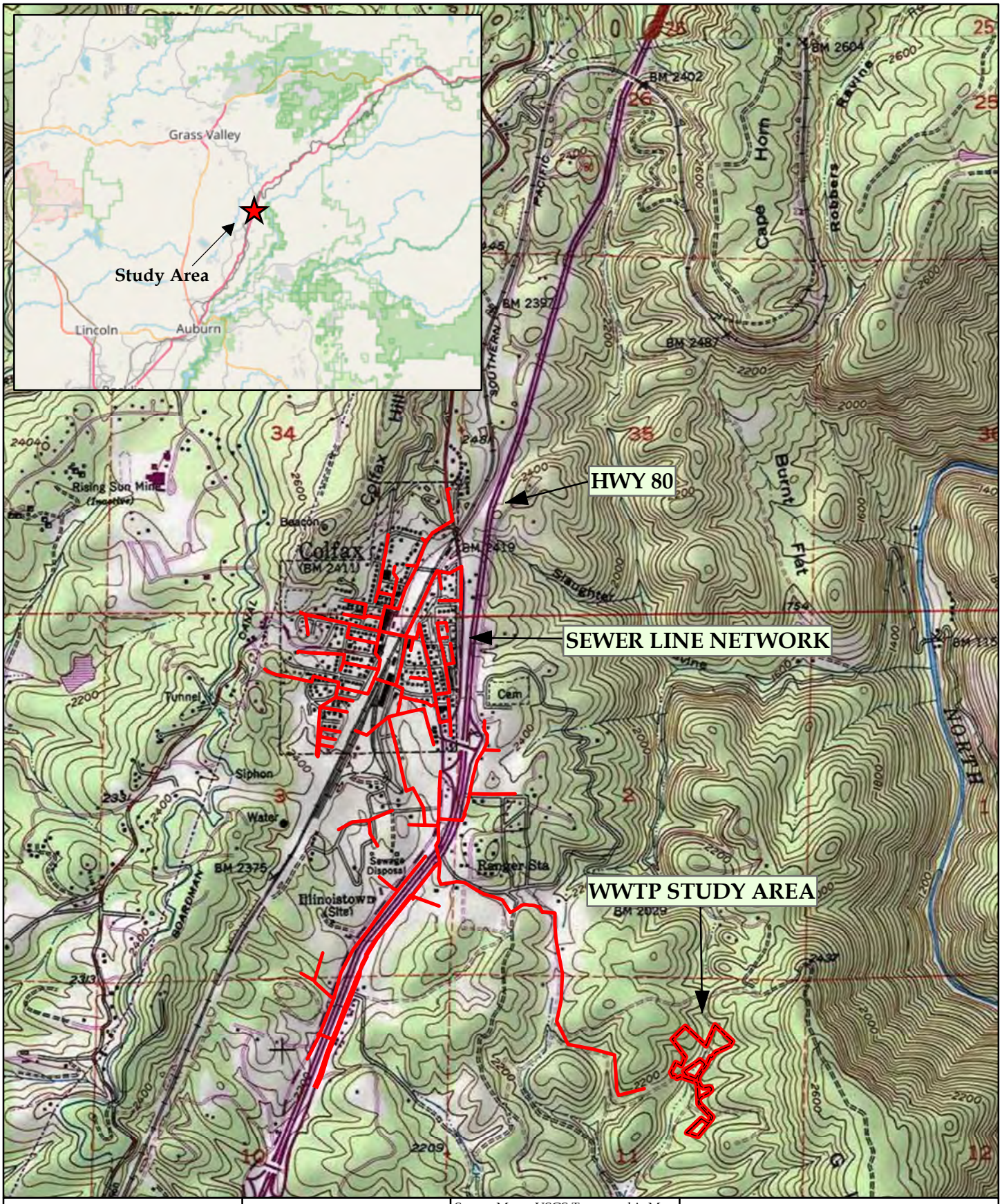
Salix Consulting, Inc. (Salix) has prepared a Biological and Wetlands Resources Assessment for the I&I Mitigation and Wastewater Treatment Plant Project located in the City of Colfax, Placer County, California. The project study area is located in two distinct units, including a ±9.8-acre area surrounding the existing Colfax Wastewater Treatment Plant (WWTP) facility property and the immediate area surrounding portions of the City's approximately 12-mile Sewer Collection System (sewer line network). The WWTP study area includes two separate areas that are being considered as a potential site for a future solar facility (only one of which will ultimately be used), an area that will contain equipment associated a planned algae control facility, and three construction-equipment staging areas. Although most of the sewer line network was evaluated, only a portion of the network will be subject to upgrades intended to reduce the amount of inflow and infiltration (I&I) of stormwater, thereby reducing the amount of wastewater conveyed to the WWTP. The reaches to be upgraded are currently being determined. The study area is shown on the Colfax, California USGS topographic map in Figure 1 and on aerial photos in Figures 2a and 2b.

Project Setting

The City of Colfax is located along Interstate 80 (I-80), approximately 1.5 miles west of the North Fork of the American River in the upper foothills of the western slope of the Sierra Nevada Mountains. The City's sewer system extends south from the intersection of Main Street and State Route 174 (SR-174) to near the intersection of Canyon Way and Canyon Creek Drive, passing through public, industrial, commercial, and residential properties (Figure 2a). The WWTP portion of the study area is located on steep, rolling foothill terrain approximately 1.5 miles southeast of the City of Colfax's downtown area. Elevations in this portion of the study area range from about 2120 at the southern end of the site to approximately 2250 feet along the northwestern border (Figure 2b). Although property surrounding the WWTP is mostly undeveloped, some scattered residences occur west of the site.

Objectives of Biological Resources Assessment

- Identify and describe the biological communities present in the study area
- Evaluate and identify if any sensitive habitats or special-status plant and animal species exist or could exist on the site
- Conduct an analysis to determine if waters of the U.S. are present, and
- Provide conclusions and recommendations.



Salix consulting, inc.

N

0 1,000 2,000

Feet

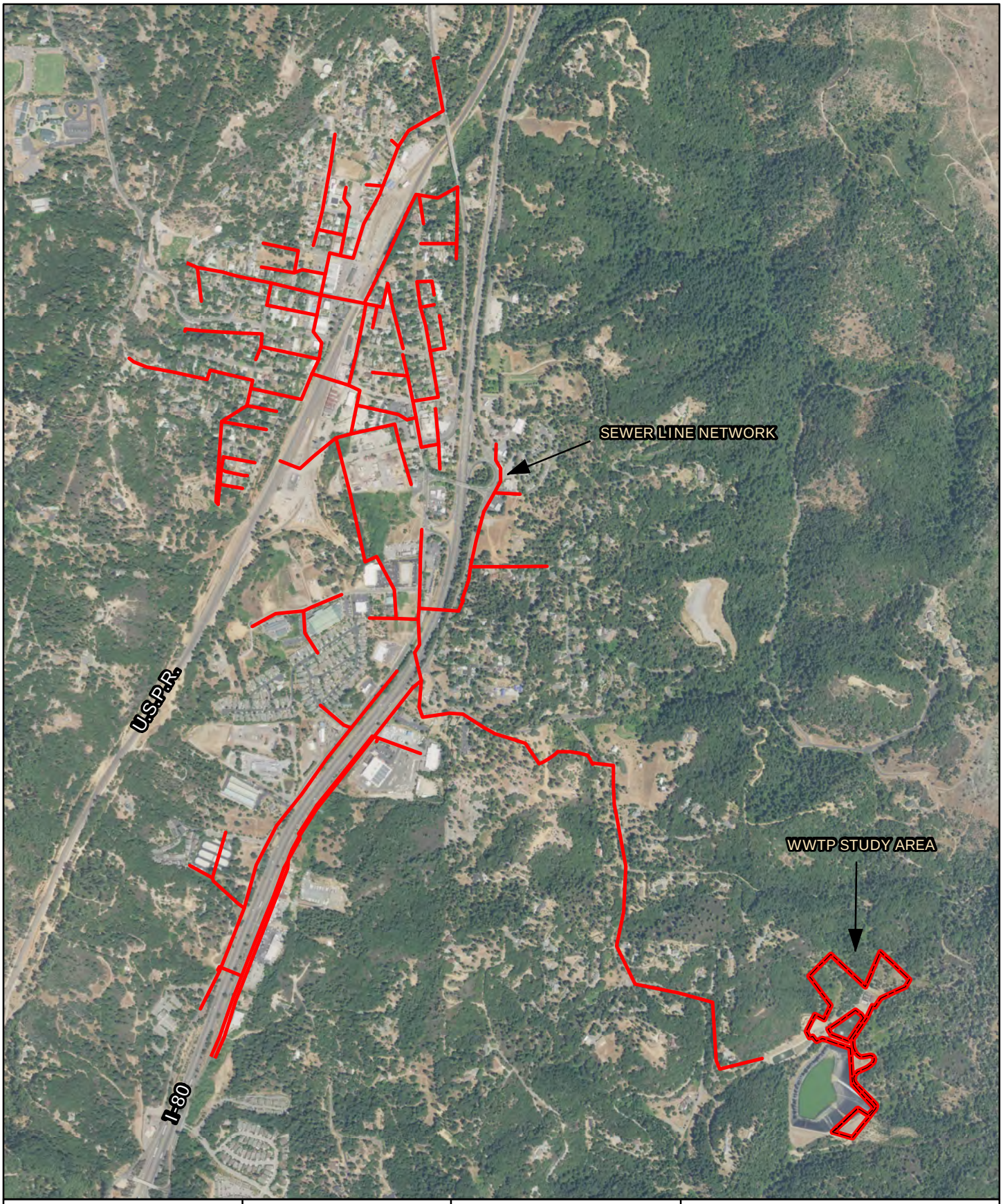
Source Maps: USGS Topographic Map
Colfax Quad 1:24,000
S11 T14N R9E

Figure 1

SITE AND VICINITY MAP

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA



Salix consulting, inc.

N

0 600 1,200

Feet

Study Area (±9.8 acres)

Sewer Line Network

Figure 2a

AERIAL MAP

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA

Salix consulting, inc.

N

0 100 200

Feet

Study Area
(±9.8 acres)

Imagery: 01-15-20 Salix Consulting

Figure 2b

AERIAL MAP

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA

METHODS

Literature Review

For this analysis, Salix biologists reviewed aerial photographs, USGS maps, engineering drawings of the proposed WWTP improvements, and maps of the Sewer Collection System with the City. Information on soils of the study area was obtained from the U.S. Department of Agriculture – National Resource Conservation Service's online Web Soil Survey (NRCS 2020). Standard publications on life history, habitat requirements, and distribution of regionally occurring plant and animal species were reviewed as needed for identification and do determine the likelihood of occurrence for special-status species.

Special-Status Species Reports

To assist with the determination of which special-status species could occur within or near the study area, Salix biologists queried the California Natural Diversity Database (CDFW 2020), the California Native Plant Society Inventory (CNPS 2020), and the USFWS Information for Planning and Consultation (USFWS IPaC 2020) database for reported occurrences of special-status fish, wildlife, and plant species in the region surrounding the study area. The six-quadrangle search area included the Colfax, Lake Combie, Foresthill, Dutch Flat, Chicago Park, and Grass Valley USGS quadrangles. In addition, Salix biologists reviewed the California Department of Fish and Wildlife list of Species of Special Concern for the project vicinity.

For the purposes of this report, special-status species are those that fall into one or more of the following categories:

- Listed as endangered or threatened under the federal Endangered Species Act (or candidate species, or formally proposed for listing);
- Listed as endangered or threatened under the California Endangered Species Act (or proposed for listing);
- Designated as rare, protected, or fully protected pursuant to California Fish and Game Code;
- Designated a Species of Special Concern by the California Department of Fish and Wildlife, or
- Designated as Ranks 1, 2, or 3 on lists maintained by the California Native Plant Society.

Field Assessments

Field assessments of the WWTP portion of the study area were conducted by Salix biologists Jeff Glazner and Joelle Soch on January 15 and July 15 2020 to characterize existing conditions, to assess the potential for sensitive plant and wildlife resources to occur, and to determine if any waters of the U.S. were present onsite. Field assessments of the Sewer Collection System were conducted on several days in February and March 2020. For the WWTP site assessment, all portions of the study area were walked and assessed. Plant and animal species observed were recorded and biological communities were mapped and assessed for the potential to support special status species. A

mapping UAV was utilized to obtain an orthomosaic aerial photo as well as oblique photos which are used in this document. For assessments of the Sewer Collection System area, roads, sidewalks, or property that followed the sewer lines were driven or walked to check for the presence of any sensitive biological resources. Wetland features that appeared to be in close proximity to the sewer lines were mapped to illustrate their location.

Plants observed within the WWTP study area are listed in Appendix A and wildlife observed there is listed within the Wildlife Occurrence and Use section below. Because most of the sewer line network occurs in paved urban areas, a list of plants and animals observed within the network was not recorded. Although detailed species lists were not compiled, those reaches of the network which do not occur in paved or urban areas were field reviewed and assessed for wetlands and special status species. Constraints information is depicted on exhibits and in the recommendation section below.

One of the undeveloped reaches within the sewer network is located within the proposed Colfax Maidu Village project (near Sierra Market) for which detailed field data is available in the City files for the project.

SURVEY AND LITERATURE SEARCH RESULTS

Soils

Two soil units have been mapped within the WWTP study area: Mariposa-Rock outcrop complex, 5 to 50 percent slopes and Maymen-Rock outcrop complex, 50 to 75 percent slopes. The components of each complex are described below (NRCS 2019).

Mariposa-Rock outcrop complex, 5 to 50 percent slopes

The Mariposa component, which makes up 65 percent of the map unit, is found on hills and foothills. Its parent material consists of residuum weathered from metasedimentary rock. Its natural drainage class is well drained and water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Its soil is not flooded or ponded and does not meet hydric criteria. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent.

Maymen-Rock outcrop complex, 50 to 75 percent slopes

The Maymen component, which makes up 45 percent of the map unit, is found on mountains and canyons. Its parent material consists of residuum weathered from metamorphic rock. Its natural drainage class is somewhat excessively drained and water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very low. Its soil is not flooded or ponded and does not meet hydric criteria. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent.

Climate

The study area has a Mediterranean climate with mild to cool, wet winters and hot, dry summers. The warm season in the region lasts from June to September, with average daily high temperatures remaining above 82°. The hottest months are July and August, with high temperatures averaging 91° and 90° and low temperatures averaging 62° and 60°, respectively. The cool season lasts from November to March, with average daily high temperatures remaining below 62°. The coolest months are December and January, with average high temperatures of 55° and 54°, respectively. The low temperature during each of these months averages 35°.

Annual rainfall precipitation averages 45 inches, nearly all of which occurs from November through March. The wettest months are December, January, and February, each averaging more than 7.6 inches of rainfall. Annual snowfall in the region averages 18.9 inches. Most of the snowfall occurs in January, February and March, each averaging more than 3.8 inches of snowfall (Western Regional Climate Center 2016).

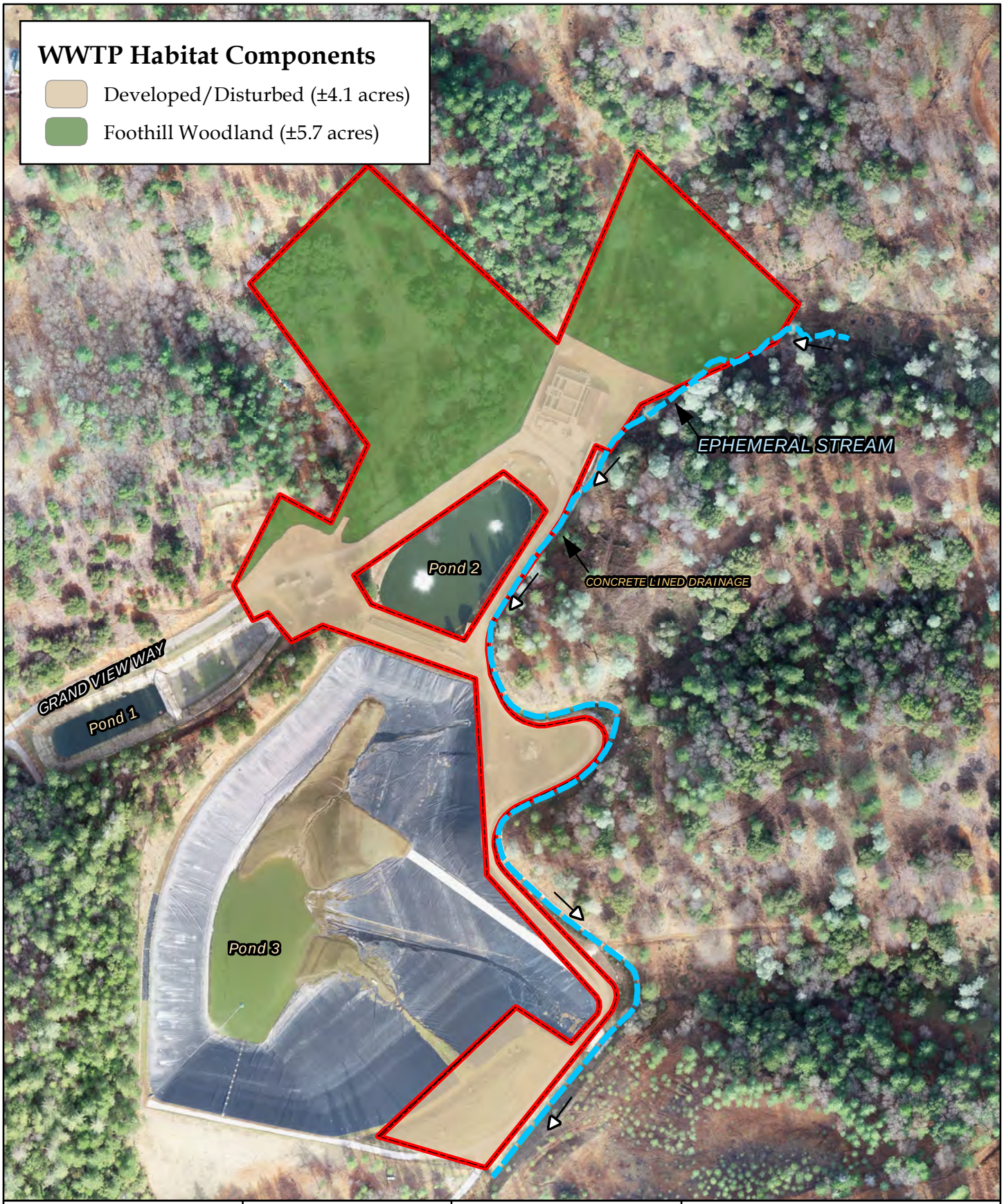
Hydrology

The WWTP site occurs in the Clipper Creek-North Fork American River HUC12 watershed (180201110103) which is part of the greater North Fork American HUC8 watershed (18020128). Water on site trends toward a small ephemeral stream that conveys water in a southwesterly direction along the eastern boundary of the study area. Water in the ephemeral stream drains into a concrete lined drainage channel directly southeast of the main WWTP building. Water continues south in the concrete lined channel for approximately 0.5 mile before draining into an unnamed intermittent stream south of the WWTP. Water in the intermittent stream flows southwest for approximately 0.3 miles before draining into Smuther's Ravine. Water in Smuther's Ravine flows in a southerly direction for approximately 1.6 miles before draining into Bunch Creek. Bunch creek continues in a southeasterly direction for approximately 3.6 miles before draining into the North Fork of the American River.

The greater area surrounding the sewer line network contains a number of small drainages, roadside ditches, and storm drains. Most of these features convey water in a southerly direction to eventually drain into Bunch Creek at a number of different locations. Bunch Creek flows southeast along Yankee Jim's Road and into the North Fork of the American River, as described above.

Biological Communities

Habitats within the WWTP study area and the sewer collection network were identified and evaluated during the field assessments. Habitats present in the WWTP study area are presented in Figures 3a, and Figure 3b shows the general habitat types throughout the sewer collection system. Aerial and ground photos of the WWTP study area are presented in Figures 4a-4f. Ground photos of the sewer collection system are not included in this document.



Salix consulting, inc.

N

0 110 220

Feet

Study Area (±9.8 acres)

Ephemeral Stream

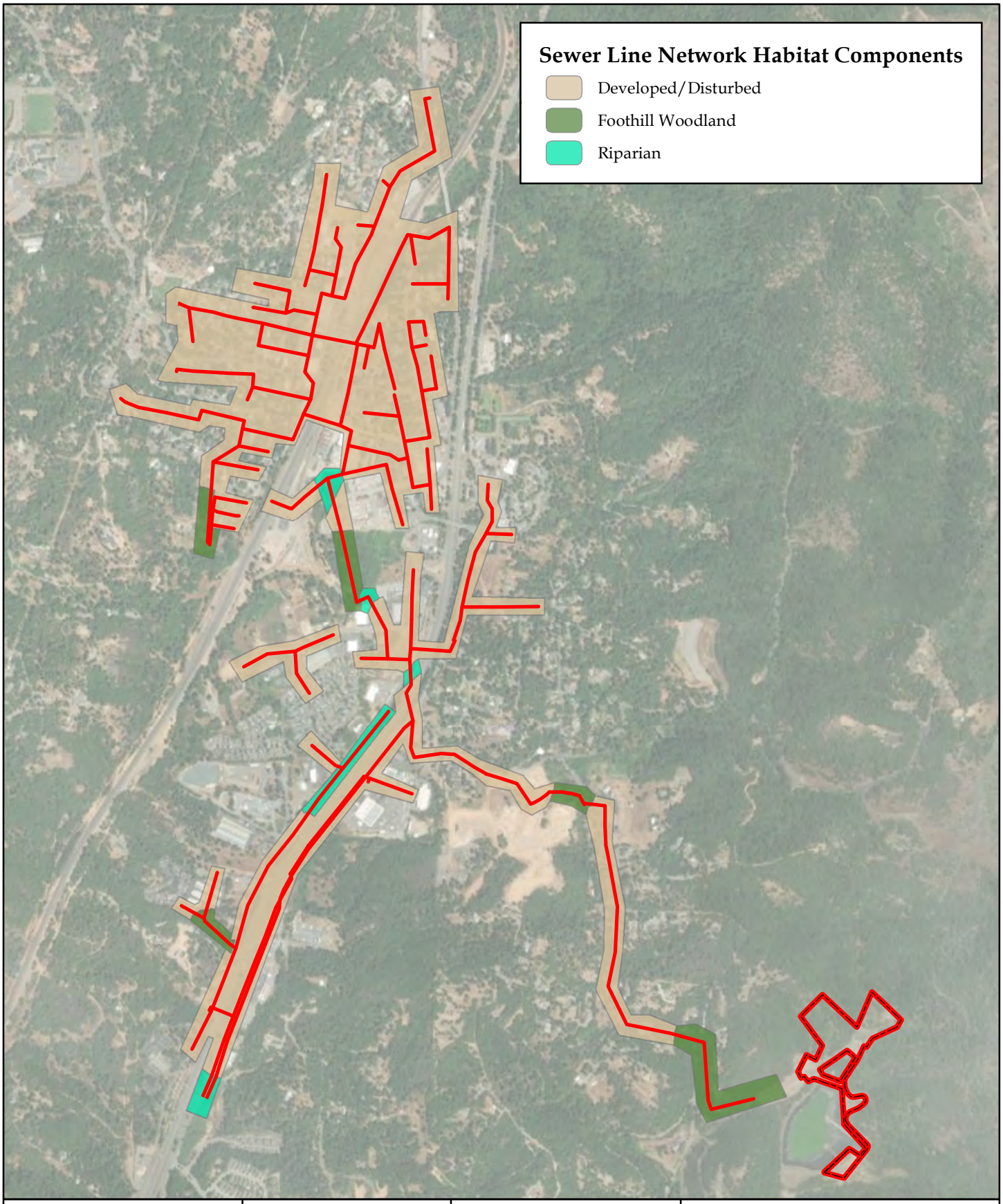
Imagery: 01-15-20 Salix Consulting

Figure 3a

HABITAT COMPONENTS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA



Salix consulting, inc.

N

0 600 1,200

Feet

Sewer Line Network

Study Area (±9.8 acres)

Figure 3b

HABITAT COMPONENTS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA

Looking north over existing WWTP, Pond 2, Staging Area 1, and Solar Panel Site Alternatives 1 and 2. *Photo Date 07-15-20.*

Looking south over proposed Solar Panel Site Alternative 2 in the northeastern portion of the WWTP study area. *Photo Date 07-15-20.*

Salix consulting, inc.

Figure 4a

SITE PHOTOS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA

Looking north over existing WWTP, Pond 2, Staging Area 1 of the WWTP study area.
Photo Date 01-15-20.

Looking south over proposed Alternative 2 and Alternative 3 sites in the southern portion of the WWTP study area.
Photo Date 01-15-20.

Salix consulting, inc.

Figure 4b

AERIAL SITE PHOTOS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA

Looking north through foothill woodland habitat in the northwestern portion of the WWTP study area.
Photo Date 07-15-20.

Looking west into a grove of canyon live oak in the northwestern portion of the WWTP study area.
Photo Date 01-15-20.

Salix consulting, inc.

Figure 4c

SITE PHOTOS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA

Looking southwest across a portion of Solar Panel Site Alternative 2 in the northeastern corner of study area.
Photo Date 07-15-20.

Looking west across a portion of Solar Panel Site Alternative 2 in the northeastern corner of study area.
Photo Date 01-15-20.

Salix consulting, inc.

Figure 4d

SITE PHOTOS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA

Looking north across Staging Area 1 adjacent to Pond 2.
Photo Date 01-15-20.

Looking west across area between Ponds 2 and 3 toward DAF/SAF System.
Photo Date 01-15-20.

Salix consulting, inc.

Figure 4e

SITE PHOTOS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA

Looking southwest along the ephemeral stream that follows northeastern boundary of the WWTP study area.
Photo Date 01-15-20.

The ephemeral stream drains into a concrete lined channel along the eastern boundary of the WWTP area.
Photo Date 01-15-20.

Salix consulting, inc.

Figure 4f

SITE PHOTOS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA

WWTP Site

One primary habitat type is present within the WWTP study area—foothill woodland. Most of the remaining areas of the site are developed or continually managed landscapes.

Foothill Woodland

Approximately 5.7 acres of foothill woodland habitat occurs in the northwest and northeast portions of the WWTP study area. Most of the forested areas within the WWTP area are actively maintained for fire safety through three thinning, shrub clearing, and the spread of wood chips.

The foothill woodland habitat in the northwestern portion of the study area is characterized primarily by canyon live oak (*Quercus chrysolepis*), California black oak (*Quercus kelloggii*), douglas fir (*Pseudotsuga menziesii*), ponderosa pine (*Pinus ponderosa*), and gray pine (*Pinus sabiniana*) (Figure 4c). Shrub species observed include Himalayan blackberry (*Rubus armeniacus*), scotch broom (*Cytisus scoparius*) and Sierra mountain misery *(Chamaebatia foliolosa)*. Herbaceous species include hedgehog dogtail (*Cynosurus echinatus*) blue wildrye (*Elymus glaucus*), and Spanish lotus (*Acmispon americanus*).

The foothill woodland habitat in the northeastern portion of the study area is characterized primarily by ponderosa pine and foothill pine (*Pinus sabiniana*), with some canyon live oak and California black oak also present (Figure 4d). Common shrub species include Himalayan blackberry, toyon (*Heteromeles arbutifolia*), California bay (*Umbellularia californica*) and coffeeberry (*Frangula californica)*. Herbaceous species observed include poison hemlock (*Conium maculatum*) in addition to those observed in the northwestern portion of the study area.

Developed/Disturbed

All remaining portion of the WWTP study area, approximately 4.1 acres, is developed/disturbed. This includes paved roads, dirt roads, structures, and equipment or facilities associated with WWTP processing as well as the surrounding areas that are disturbed by ongoing human use. These areas generally contain sparse vegetation cover with invasive species such as yellow star-thistle (*Centaurea solstitialis*) and non-native annual grasses (Figures 3b and 4e).

Sewer Collection System Network

The Sewer Collection System is located throughout the City of Colfax, and most of the sewer lines are either located underneath roads or occur within urban or developed landscapes. Vegetation in these areas consists mostly of ornamental plantings placed throughout the neighborhoods. A few reaches of the sewer line network are located in undeveloped and natural habitats, most of which would be considered foothill woodland. Along those reaches, typical foothill woodland species are present, including ponderosa pine, black oak, canyon live oak, toyon, white leaf manzanita (*Arctostaphylos viscida*), scotch broom, and mountain misery. In areas where water flows, willow (*Salix sp.*), Himalayan blackberry, and herbaceous marshy species are common. Figure 3b shows the sewer network and area mapped as Developed/Disturbed, Foothill Woodland, and Riparian.

Potential Waters of the U.S

WWTP Study Area

An ephemeral stream is mapped along the northeastern boundary of the study area (Figure 3a). The ephemeral stream is a minor channel which meanders in and out of the study area, conveying water in a southwesterly direction before draining into a concrete lined channel and following a service road along the site's eastern edge (Figure 4f). The ephemeral stream was not flowing during the January site visit but would be expected to do so after substantial rain events.

A dry upland swale located along the western edge of the northeast portion of the study area was closely examined as a potential waters of the U.S (WOUS). The feature, which may occasionally carry water during extreme rain events, leads into a concrete lined channel west of the main WWTP building. However, the swale does not have a defined bed or bank and lacks evidence of periodic scouring, indicating that such events are rare. In addition, the feature does not support a hydrophytic flora, but instead contains mainly upland species such as Himalayan blackberry, poison hemlock, hedgehog dogtail, ripgut grass (*Bromus diandrus*), yellow star-thistle, and blue wildrye. The upland swale does not qualify as a potential WOUS and other than the drainage mentioned above, no other potential WOUS occur in the WWTP study area.

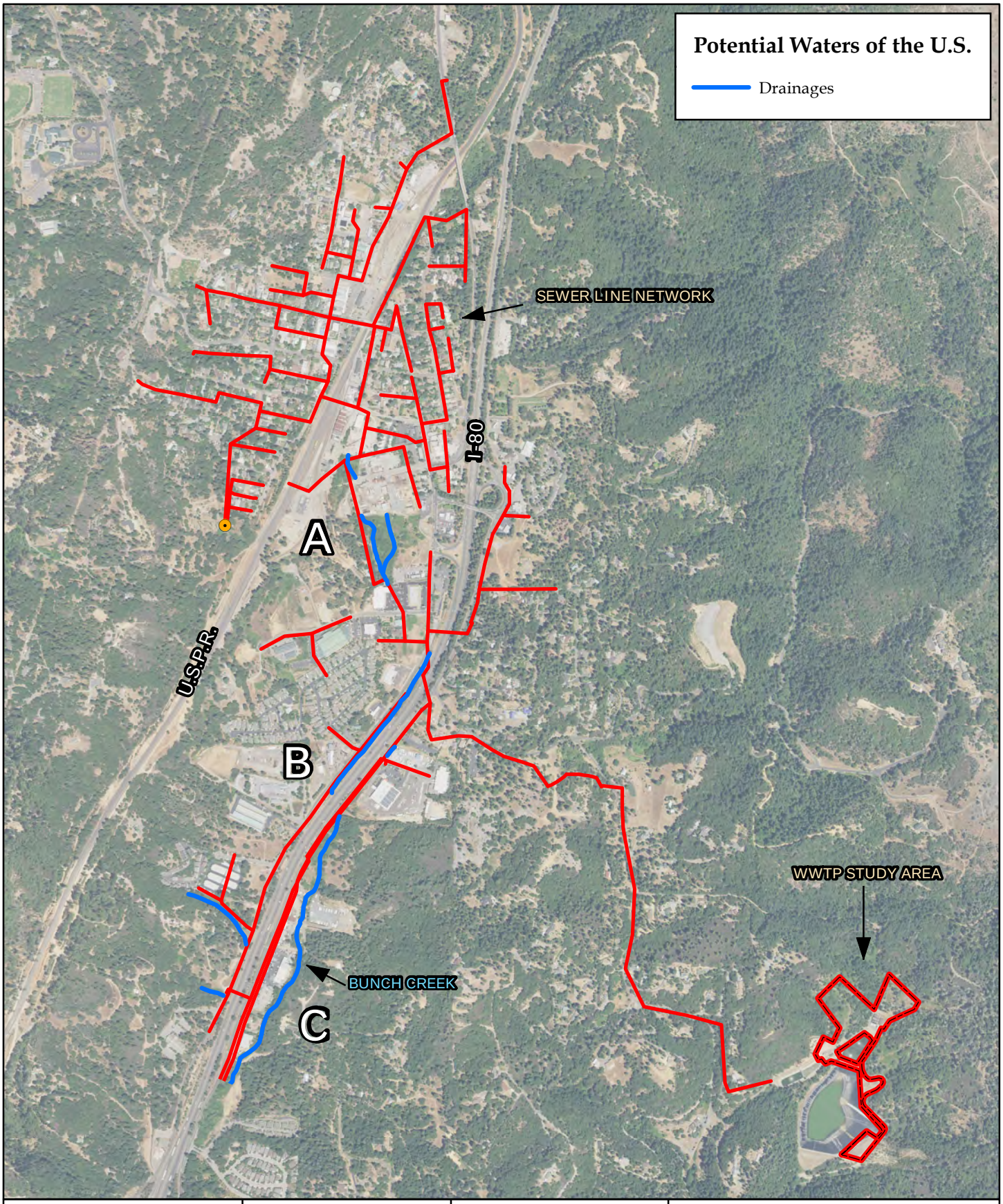
Sewer Collection System

Several areas of the Sewer Collection System network are in close proximity to potential waters of the U.S. Nearly all of these features are linear conveyances of varying width and capacity. Most are parallel to the existing sewer lines and will most likely not be affected by sewer maintenance. Several features cross undeveloped land, and depending on the sewer placement, may be affected by future installation or maintenance. For example, two mapped drainages cross through the proposed Colfax Maidu Village site north of the Sierra Market. Drainage features are shown in Figure 5a-5d.

Wildlife Occurrence and Use

Due to the generally disturbed nature of the WWTP site and the presence of frequent human activity, quality habitat and species diversity within the site itself is lacking. Habitat is minimal in the developed/disturbed portions of the site. However, the foothill woodland habitat within the northern portions of the study area is expected to support a variety of common species adapted to life in rural wooded settings. Trees and shrubs provide suitable nesting habitat for common species, and raptors or resident and migratory songbirds may nest on the property. Mid-sized mammals such as coyote would prey on the small mammals.

Species observed during the WWTP site visits include western bluebird, common raven, white crowned sparrow, dark eyed junco, cliff swallow, California quail, turkey vulture, northern flicker, Steller's jay, American robin, mule deer, gray fox, black-tailed jack rabbit, and western gray squirrel.



Salix consulting, inc.

N

0 590 1,180

Feet

Study Area (±9.8 acres)

Sewer Line Network

Pump Station

Figure 5a

SEWER SYSTEM CONSTRAINTS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA

Salix consulting, inc.

N

0 100 200

Feet

Study Area (±9.8 acres)

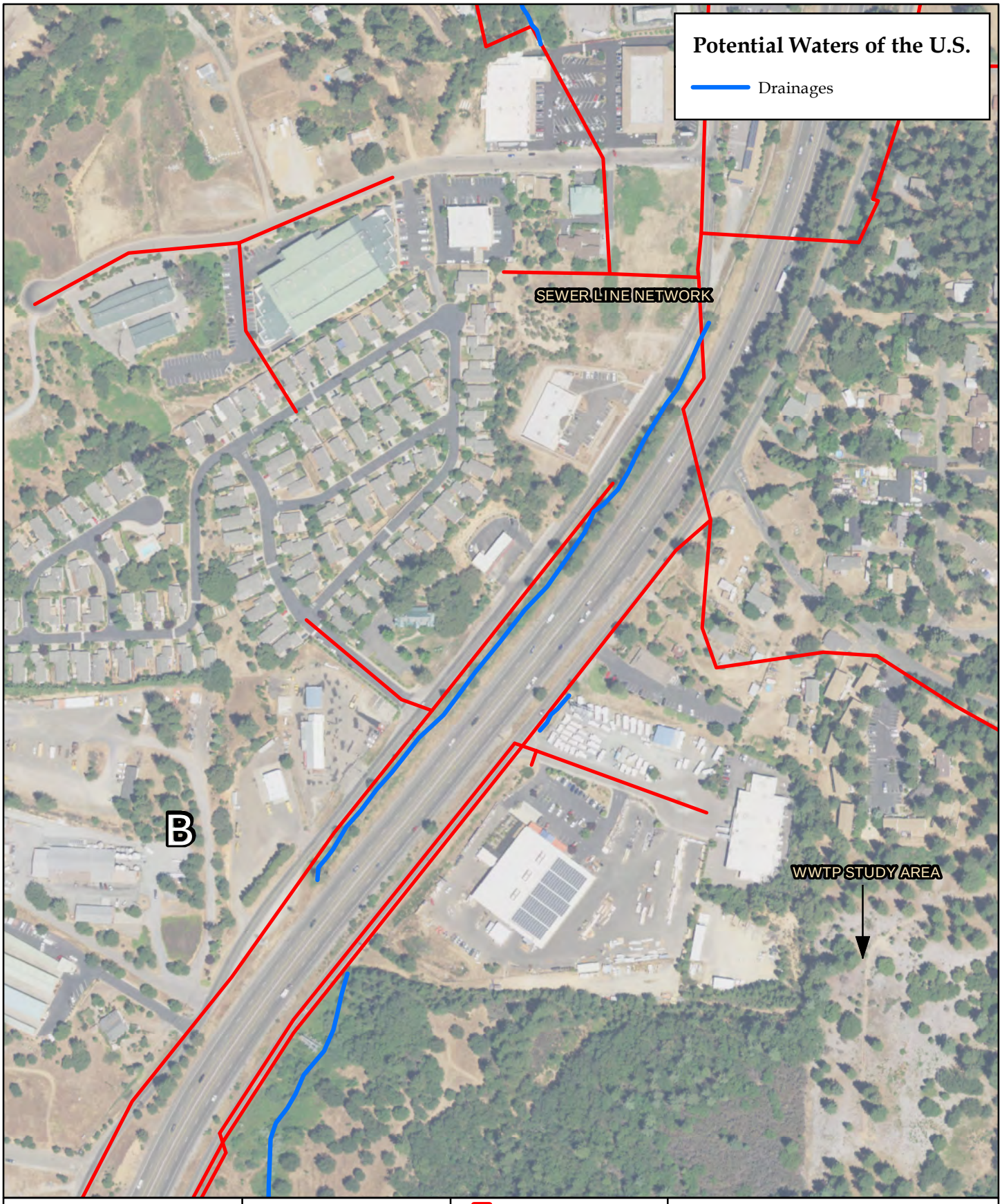
Sewer Line Network

Figure 5b

SEWER SYSTEM CONSTRAINTS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA



Salix consulting, inc.

N

0 150 300

Feet

Study Area (±9.8 acres)

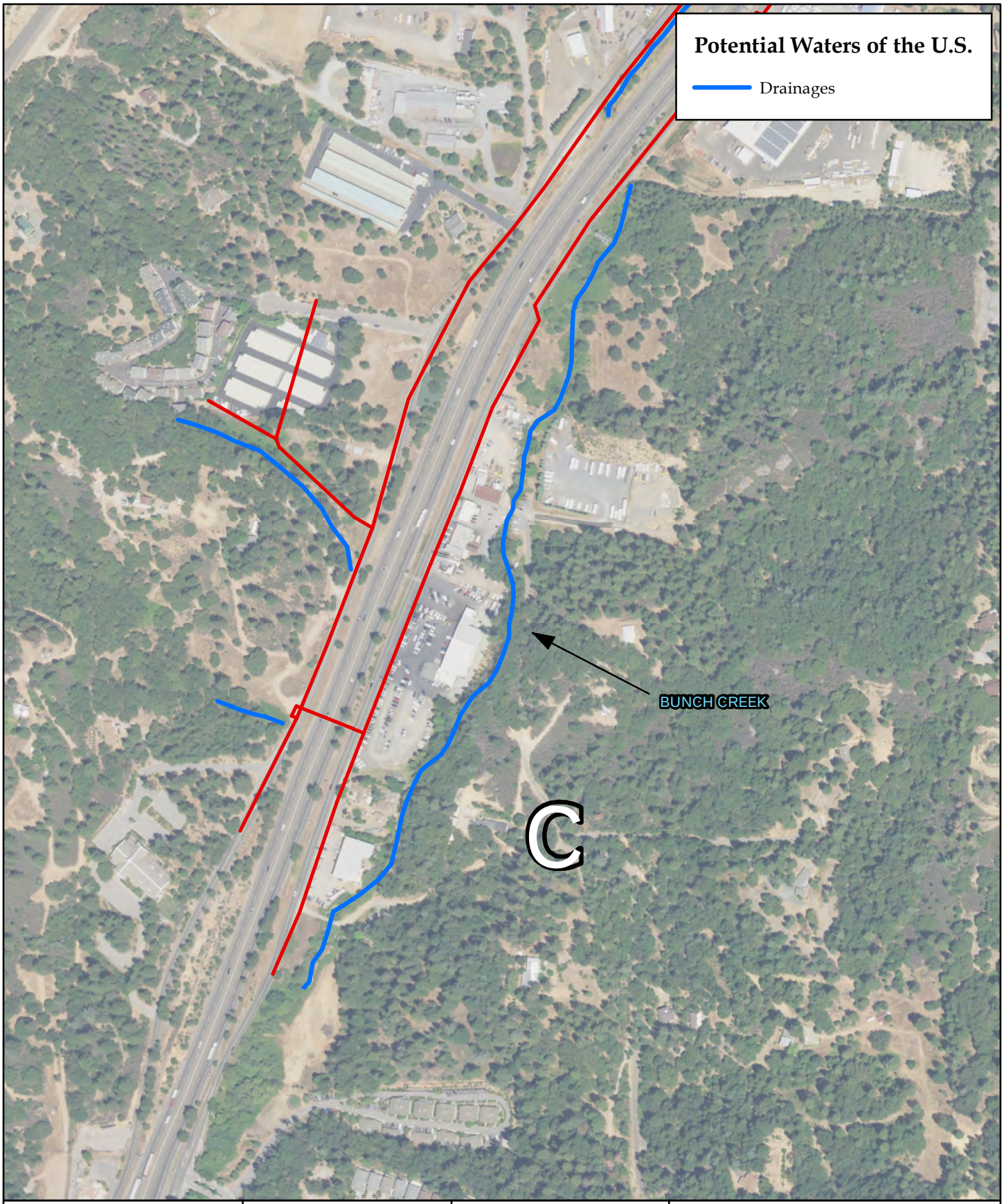
Sewer Line Network

Figure 5c

SEWER SYSTEM CONSTRAINTS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA



Salix consulting, inc.

N

0 200 400

Feet

Study Area (±9.8 acres)

Sewer Line Network

Figure 5d

SEWER SYSTEM CONSTRAINTS

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA

Due to the generally urban condition of the existing sewer system, wildlife use is expected to be limited to species that are typical of urban settings. These species, such as racoon, opossum, striped skunk, coyote, western grey squirrel, and numerous bird species, are common throughout the urban landscape because of their adaptation to human activity.

Special-Status Species

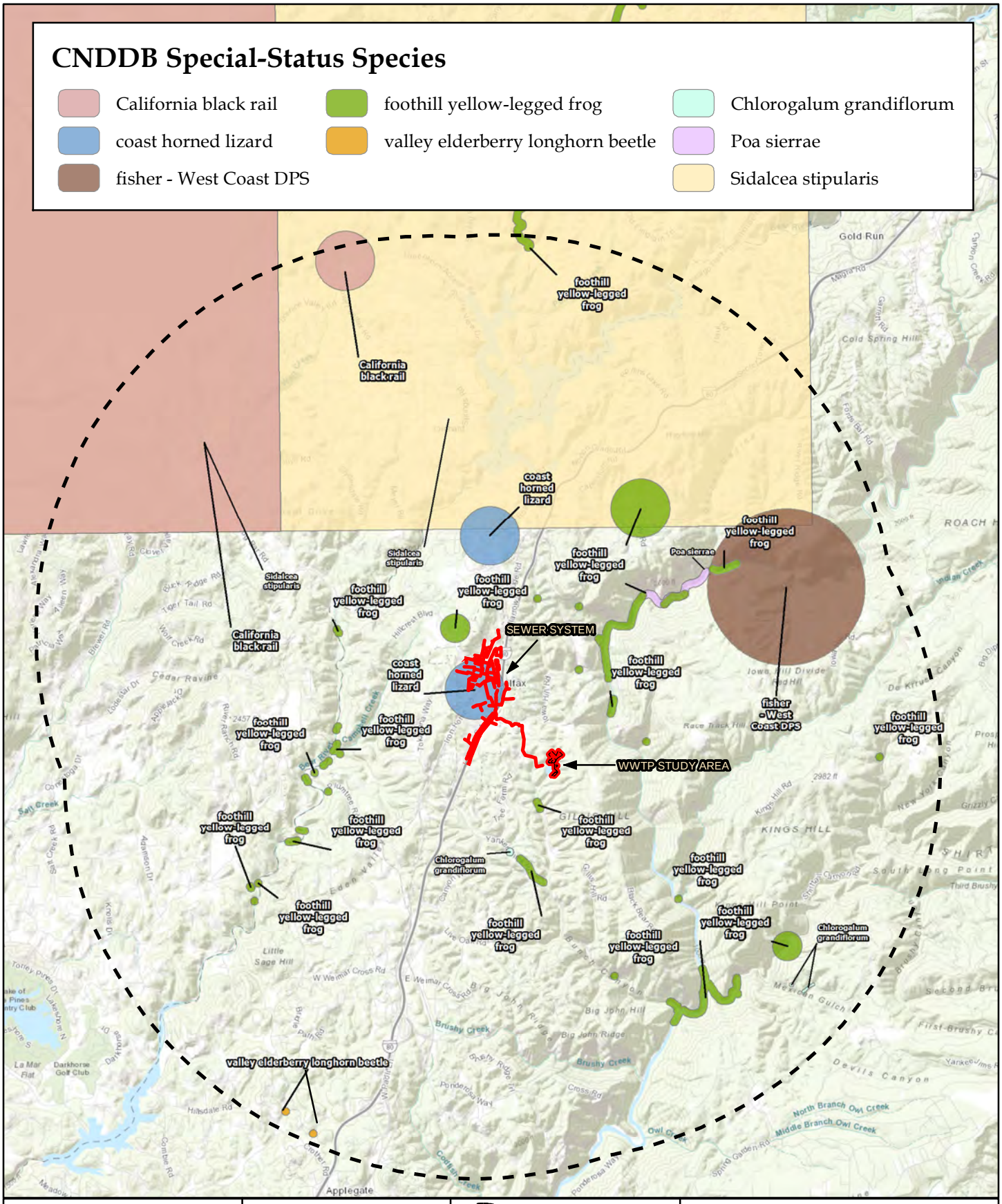
The WWTP study area is the main focus of the special status species review because it has larger undisturbed areas; however, the entire sewer collection system was also evaluated as part of this assessment.

To determine potentially-occurring special-status species, the standard databases from the USFWS, CDFW (the CNDDB), and CNPS were queried and reviewed. These searches provided a list of regionally occurring species and were used to determine which species have some potential to occur within or near the study area. Appendix B lists potentially-occurring special-status plants, and Appendix C lists special-status animals compiled from our queries as described above. The field survey and the best professional judgment of Salix biologists were used to further refine the tables in Appendices B and C. Additionally, plant species found on the CNPS List 4 are not considered further in the document. Figure 6 shows the approximate locations of reported occurrences of CNDDB special-status plants and wildlife within a five-mile radius of the WWTP study area.

Plants

Nineteen (19) potentially-occurring plant species were identified in the CNDDB query (Appendix B), and three (3) were identified as occurring within a five-mile radius of the study area (Figure 6). The 10 species listed below were determined to have no potential to occur in the WWTP study area due to the absence of suitable habitats (such as wetlands, vernal pools, marshes, swamps, shady moist slopes, or upper montane coniferous forest). Those that are reported to occur within a 5-mile radius of the WWTP study area are marked with an asterisk (*).

- Jepson's coyote thistle (*Eryngium jepsonii*)
- Sheldon's sedge (*Carex sheldonii*)
- Brownish beaked-rush (*Rhynchospora capitellata*)
- Scadden Flat checkerbloom (*Sidalcea stipularis*)*
- Hutchison's lewisia (*Lewisia kelloggii* ssp. *hutchisonii*)
- Kellogg's lewisia (*Lewisia kelloggii* ssp. *kelloggi*)
- Sierra bluegrass (*Poa sierrae*)*
- Stebbins' phacelia (*Phacelia stebbinsii)*
- Cedar Crest popcornflower (*Plagiobothrys glyptocarpus* var. *modestus)*
- Finger rush (*Juncus digitatus)*



Salix consulting, inc.

Figure 6

CNDDB OCCURRENCES MAP

I&I Mitigation and WWTP Project

City of Colfax, Placer County, CA

Seven (7) other species identified in the CNDDB query were also determined to have no potential for occurring onsite due to the lack of suitable soils (such as gabbroic or serpentinite) and are listed below. Those that are reported to occur within a 5-mile radius of the WWTP study area are marked with an asterisk (*).

- Red Hills soaproot (*Chlorogalum grandiflorum*)*
- Layne's ragwort (*Packera layneae*)
- Stebbins' morning-glory (*Calystegia stebbinsii*)
- Van Zuuk's morning-glory (*Calystegia vanzuukiae*)
- Chaparral sedge (*Carex xerophila*)
- Follett's monardella (*Monardella follettii*)
- Pine Hill flannelbush (*Fremontodendron decumbens*)

In summary, 17 special-status plants known from the region surrounding the study area (Appendix B), including three (3) plants that are known from within a five-mile radius (Figure 5), require habitats or substrates that do not occur within the WWTP study area, were determined to have no potential for occurring onsite, and were eliminated from further consideration.

Two (2) plant species from Appendix B, listed in Table 1 below, were determined to have some potential to occur within the study area and are described below. Neither of these species are reported to occur within a 5-mile radius of the study area.

Table 1.

Special-Status Plant Species Determined to Have Some Potential to Occur within the Colfax Wastewater Treatment Plant Study Area

Species	Status* Federal	State	CNPS	Habitat	Potential for Occurrence Within Study Area**
Dubious pea *Lathyrus sulphureus argillaceus*	-	-	3	Cismontane woodland; upper and lower montane coniferous forest.	Unlikely. Marginal habitat may be present in undisturbed areas on site.
Butte County fritillary *Fritillaria eastwoodiae*	-	-	3.2	Chaparral; cismontane woodland; lower montane coniferous forest (openings); [sometimes serpentinite].	Unlikely. Marginal habitat may be present in undisturbed areas on site.

*Status Codes:
CNPS
Rank 2 Rare, Threatened, or Endangered in California, more common elsewhere

**Definitions for the Potential to Occur:
Unlikely. Some habitat may occur, but disturbance may restrict/eliminate the possibility of occurrence. Habitat may be very marginal, or study area is outside range of species.

Butte County fritillary (*Fritillaria eastwoodiae*) a perennial bulbiferous herb, is a member of the Liliaceae family and is native to the foothills of the northern Sierra Nevada, and Cascade Mountains in California and southern Oregon. It has no federal or state status, but is ranked 3.2 by the California Native Plant Society (CNPS) and may be considered under CEQA. This species grows generally in chaparral, foothill woodland, and openings in coniferous forests, at elevations up to 5,000 feet. Butte County fritillary is typically found on dry slopes in transitional areas between habitats and soils, often on serpentine, red clay, or sandy loams. The species grows from 20 to 80 centimeters in height and has linear to narrowly lanceolate leaves arranged on its glaucous stem. Its flowers are nodding with slightly flared and slightly recurved (curving backwards) tepals. Its color varies from greenish-yellow mottled to a mixture of red, orange, green, and yellow mottling. It blooms from March to June.

According to the CNDDB, the nearest recorded occurrence of Butte County fritillary is approximately 9.6 miles southeast of the study area at Spanish Dry Diggings, near the middle fork of the American River in 1967. Typical micro habitat components where the species is commonly found are lacking in the study area and although remotely possible, is not likely to occur.

Dubious pea (*Lathyrus sulphureus* var. *argillaceus)*, is perennial herb in the Fabaceae family. It has no federal or state status but is ranked 3 by the CNPS and may be considered under CEQA. This species is not well represented in the region and occurrence data is scarce and lacking detail. Some publications consider this variety a synonym of the species and not a distinct taxon. Habitat within the study area lacks anything out of the ordinary and is generally disturbed from ongoing WWTP operations. Therefore, although the lack of information regarding the dubious pea and its habitat provides a remote possibility of occurrence, it is not likely to occur.

Although several segments of the sewer line in the Study Area are within foothill woodland habitat, the likelihood of any special status plant species occurring in those reaches is almost zero due to general urbanization of the area, prior disturbances of these locations, and the general weak expression of suitable habitat. Like the WWTP study area, some areas within the sewer line network may provide marginal habitat for the Butte County Fritillary and the dubious pea. However, as discussed above, it is unlikely that either of these two species would occur.

Animals

Twelve potentially occurring special-status animal species were identified in the CNDDB and USFWS queries (Appendix C), and five (5) were identified as occurring within a five-mile radius of the WWTP study area (Figure 6) and are marked with an asterisk (*) in the lists below.

The following seven (7) species were determined to have no potential to occur because they are associated with specific habitats that do not occur within or near the study area (such as elderberry shrubs, wetlands, ponds, streams, marshes, lose or sandy soil, caves, mines, lava tubes, tunnels, buildings, or large-tree stage coniferous forest):

- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)*

- California red-legged frog (*Rana draytonii*)
- Foothill yellow-legged frog (*Rana boylii*)*
- Western pond turtle (*Actinemys marmorata*)
- Coast horned lizard (*Phrynosoma blainvillii*)*
- Townsend's big-eared bat (*Corynorhinus townsendii townsendii*)
- Sierra Nevada mountain beaver (*Aplodontia rufa californica*)

The following two (2) species have no potential to occur due to the lack of suitable nesting habitat (such as wetlands or marshes, wet cliffs,) within the study area:

- California black rail (*Laterallus jamaicensis coturnculus*)*
- Black swift (*Cypseloides niger*)

Two species – Sierra Nevada red fox (*Vulpes vulpes necator)* and Fisher – West Coast DPS (*Pekania pennanti*)* – were determined to have no potential to occur due to lack of suitable habitat, the site's proximity to frequent human activity, and the site's lack of adequate cover.

One species, Delta smelt (*Hypomesus transpacificus),* was eliminated from further consideration due to the site being located outside of known species' range.

Habitat for the California red-legged frog is not present in the study area. This species breeds in ponds and does not stray far from water. It is not known from the area and is believed to be extirpated due to predatory animals, primarily bullfrogs. Foothill yellow-legged frogs are known to occur in local streams (e.g., Bunch Creek). However, this species also does not stray far from water and the project site appears to sufficiently avoid Bunch Creek. All other drainages present within or near the project site are not suitable habitat for the foothill yellow-legged frog.

In summary, 12 special-status animal species are known from the region surrounding the study area (Appendix C), and five (5) of these animals are known from within a five-mile radius and are shown in Figure 6. All of the animal species identified in Appendix C require habitats that do not occur within the WWTP study area. Therefore, all 12 were determined to have no potential for occurring onsite and were eliminated from further consideration.

A large majority of the Sewer Collection System network occurs in paved, developed, or residential areas in which the special-status species listed in appendices C and B have no potential to occur. A few reaches of the Sewer Collection system are undeveloped and have similar potential to support the same two special-status plant species (Butte County fritillary and dubious pea) noted from the WWTP study area. However, because these areas are located in close proximity to busy roadways, vegetation maintenance, and frequent human activity, it is unlikely that any special-status species would occur.

RECOMMENDATIONS

Waters of the United States

The WWTP study area contains a small ephemeral stream that may qualify as waters of the United States. Furthermore, several drainages located throughout the sewer collection system may also qualify as waters of the U.S. Activities that place fill material in these features may require a permit from the U.S. Army Corps of Engineers pursuant to Section 404 of the federal Clean Water Act. If it is determined that waters of the U.S. are present and will be impacted, water quality certification from the Regional Water Quality Control Board pursuant to Section 401 of the federal Clean Water Act (401 Certification) would also be required. To the extent feasible, the layout, design and construction of the solar facility, sewer line upgrades and algae control facilities, including staging areas, shall avoid potential Waters of the US. If potential Waters cannot be avoided, a wetland delineation shall be prepared by a qualified biologist, and if wetlands are present in the area to be disturbed, verified by the USACE. Prior to fill or disturbance of any wetlands, the project shall demonstrate no net loss through restoration and/or compensation through an authorized wetland mitigation bank. This requirement may be met through the 404-permitting process.

Streams, Pond, and Riparian Habitat

Impacts to the bed, bank, or channel of streams or ponds require a Lake & Streambed Alteration Agreement (LSAA/1602) from the California Department of Fish and Wildlife (CDFW). Although an ephemeral stream passes in and out of the WWTP study area along the northeastern boundary of the site, this feature would not likely be under the jurisdiction of the CDFW due to the minimal size of the feature and the lack of any riparian vegetation. Some of the features located in proximity to the sewer collection system may qualify as streams and may be regulated by the CDFW. Any impacts to these areas would require a 1602. To the extent feasible, the potential streams shown on Figure 5a shall be avoided during the sewer line upgrades. If disturbance cannot be avoided, then the project shall obtain a Section 1602 agreement from the CDFW and implement the associated requirements. At a minimum, BMPs shall be used to prevent erosion and stormwater runoff from carrying soils or urban contaminants into the streams, and the stream bank and bed will be restored to their original condition after completion of the project.

Tree Conservation

Trees greater than six inches in diameter (as measured 4.5 feet from the ground) are afforded various levels of protection through the City of Colfax Tree Preservation Ordinance and the General Development Regulations. Portions of the study area contain wooded habitat with several trees that are greater than six inches in diameter. The project will comply with the City Tree Ordinance as applicable.

Special-Status Plants

Marginal habitat for two special-status plant species, dubious pea and Butte County fritillary, occurs in a few areas of the WWTP study area and the Sewer Collection System area. Depending on specific impacts, a survey for these species may be needed prior to any work. Plans for any future impacts in these areas should be made with consideration to the potential for these species to be present. Roads and areas within the study area that have been previously disturbed would not be considered special status plant species habitat and would not require a survey prior to work. If any disturbance will occur in the natural habitat areas shown in Figures 3a and 3b, the site shall be surveyed by a qualified biologist/botanist for Butte County fritillary and dubious pea. The survey shall take place during the appropriate season in the same year that disturbance would occur. If the plants are found, they shall be avoided to the extent feasible. If avoidance is not possible, then a mitigation plan will be developed by a qualified biologist to relocate the plants (or seeds) to a nearby appropriate site, approved by the City of Colfax.

Special-Status Wildlife

The study area contains no suitable habitats for special-status animal species that may occur in the region, and none were detected during the winter survey. No further studies are recommended.

Nesting Raptors and Migratory Birds

The site may provide suitable nesting habitat for some common raptors known from the region, and for other birds protected by the Migratory Bird Treaty Act. Take of any active raptor nest is prohibited under California Fish and Game Code sections 3503, 3503.5, and 3513. If tree removal or other ground disturbance takes place during the breeding/nesting season (February 1 through August 31), disturbance of nesting activities could occur. To avoid impacts to nesting birds, disturbance should occur outside of the typical nesting season. If disturbance occurs at any time during the nesting season, a pre-construction survey should be conducted by a qualified biologist within two weeks prior to initiation of proposed development activities. If active nests are found during the pre-construction survey, buffer zones should be established around any identified nests, and the nests should be monitored by a qualified biologist until the offspring have fledged. Consultation with the California Department of Fish and Wildlife (CDFW) may be warranted. If no nesting is found to occur, necessary vegetation removal could then proceed.

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Appendix A.
Plant Species Observed Within the Colfax WWTP Study Area
Study Area

Appendix A

Colfax Wastewater Treatment Plant - Plants Observed - January and July 2020

Ferns and Allies

Blechnaceae - Deer Fern Family

Woodwardia fimbriata	Giant chain fern

Gymnosperms

Pinaceae - Pine Family

Pinus lambertiana	Sugar pine
Pinus ponderosa	Ponderosa pine
Pinus sabiniana	Gray pine
Pseudotsuga menziesii var. menziesii	Douglas-fir

Angiosperms - Dicots

Anacardiaceae - Cashew or Sumac Family

Toxicodendron diversilobum	Western poison-oak

Apiaceae (Umbelliferae) - Carrot Family

**Conium maculatum*	Poison hemlock
**Torilis arvensis*	Field hedgeparsley

Asteraceae (Compositae) - Sunflower Family

Artemisia douglasiana	California mugwort
Baccharis pilularis	Coyote brush
**Carduus pycnocephalus*	Italian thistle
**Centaurea solstitialis*	Yellow starthistle
**Chondrilla juncea*	Skeleton weed
**Cirsium vulgare*	Bull thistle
**Dittrichia graveolens*	Stinkwort
Eriophyllum lanatum	Woolly sunflower
Grindelia camporum	Great Valley gumplant
**Hypochaeris glabra*	Smooth cat's-ear
**Lactuca serriola*	Prickly lettuce
**Logfia gallica*	Narrowleaf cottonrose
Madia elegans	Common madia
Madia gracilis	Slender tarweed
**Senecio vulgaris*	Common groundsel
**Sonchus oleraceus*	Common sow-thistle

Brassicaceae (Cruciferae) - Mustard Family

**Brassica nigra*	Black mustard

Caryophyllaceae - Pink Family

**Spergularia rubra*	Ruby sand-spurrey

Ericaceae - Heath Family

Arbutus menziesii	Madrone
Arctostaphylos viscida	Whiteleaf manzanita

Euphorbiaceae - Spurge Family

Croton setiger	Turkey mullein

Fabaceae (Leguminosae) - Legume Family

Acmispon americanus	Spanish lotus
**Cytisus scoparius*	Scotch broom
**Trifolium hirtum*	Rose clover

Fagaceae - Oak Family

Quercus chrysolepis	Canyon live oak
Quercus kelloggii	California black oak

Geraniaceae - Geranium Family

**Erodium botrys*	Broad-leaf filaree
**Erodium cicutarium*	Red-stem filaree
**Geranium molle*	Dove's-foot geranium

Hypericaceae - St. John's Wort Family

**Hypericum perforatum subsp. perforatum*	Klamathweed

Lauraceae - Laurel Family

Umbellularia californica	California bay

Linaceae - Flax Family

Linum lewisii	Prairie flax

Montiaceae - Miner's Lettuce Family

Claytonia perfoliata	Common miner's lettuce

Onagraceae - Evening Primrose Family

Epilobium brachycarpum	Summer cottonweed

Papaveraceae - Poppy Family

Eschscholzia californica	California poppy

Plantaginaceae - Plantain Family

**Plantago lanceolata*	English plantain

Polygonaceae - Buckwheat Family

**Polygonum aviculare*	Common knotweed
**Rumex acetosella*	Sheep sorrel
**Rumex crispus*	Curly dock

Rhamnaceae - Buckthorn Family

Ceanothus cuneatus var. cuneatus	Buck brush
Frangula californica subsp. tomentella	Hoary coffeeberry
Rhamnus crocea	Spiny redberry

Rosaceae - Rose Family

Chamaebatia foliolosa	Sierra mountain misery
Heteromeles arbutifolia	Toyon
**Rubus armeniacus*	Himalayan blackberry

Rubiaceae - Madder Family

Galium aparine	Goose grass
**Galium parisiense*	Wall bedstraw

Scrophulariaceae - Figwort Family

**Verbascum blattaria*	Moth mullein
**Verbascum thapsus*	Woolly mullein

Viscaceae - Mistletoe Family

Phoradendron leucarpum subsp. tomentosum	Oak mistletoe

Vitaceae - Grape Family

Vitis californica	California wild grape

Angiosperms -Monocots

Agavaceae - Agave Family

Chlorogalum pomeridianum	Soaproot

Poaceae (Gramineae) - Grass Family

**Bromus diandrus*	Ripgut grass
**Bromus hordeaceus*	Soft chess
**Bromus madritensis*	Foxtail brome
**Cynosurus echinatus*	Hedgehog dogtail
**Dactylis glomerata*	Orchard grass
Elymus glaucus	Blue wildrye
Melica californica	California melic

Themidaceae - Brodiaea Family

Dichelostemma volubile	Twining brodiaea

Appendix B.
Potentially-Occurring Special-Status Plants in the Region of the Colfax WWTP Study Area

Appendix B

Colfax Wastewater Treatment Plant Potentially-Occurring Special-Status Plant Species

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Agavaceae				
Chlorogalum grandiflorum Red Hills soaproot	Fed: FSW State: - CNPS: Rank 1B.2	May-June	Chaparral; cismontane woodland; [serpentinite or gabbroic].	None. No suitable substrate (serpentine or gabbroic soil) present in the WWTP study area or the Sewer Collection System.
Apiaceae (Umbelliferae)				
Eryngium jepsonii Jepson's coyote thistle	Fed: - State: - CNPS: Rank 1B.2	April-August	Clay. Valley and foothill grassland. Vernal pools.	None. No suitable habitat (vernal pools) present in the WWTP study area or the Sewer Collection System.
Asteraceae (Compositae)				
Packera layneae Layne's ragwort	Fed: FT State: CR CNPS: Rank 1B.2	April-July	Chaparral; cismontane woodland; [serpentinite or gabbroic].	None. No suitable substrate (serpentine or gabbroic soil) present in the WWTP study area or the Sewer Collection System.
Boraginaceae				
Phacelia stebbinsii Stebbins' phacelia	Fed: FSS State: - CNPS: Rank 1B.2	May-July	Cismontane woodland; lower montane coniferous forest; meadows and seeps. (primarily rock outcrops and rubble piles).	None. The WWTP and the Sewer Collection System occur below the species range and no suitable habitat (gravelley moist areas) are present in the WWTP study area or the Sewer Collection System.
Plagiobothrys glyptocarpus modestus Cedar Crest popcornflower	Fed: - State: - CNPS: Rank 3.	April-May	Cismontane woodland. Seeps and moist openings in grasslands, at approximately 2800 ft. elevation	None. No suitable habitat (wetlands) present in the WWTP study area or the Sewer Collection System.
Convolvulaceae				
Calystegia stebbinsii Stebbins' morning-glory	Fed: FE State: CE CNPS: Rank 1B.1	May-June	Chaparral (openings); cismontane woodland; [serpentinite or gabbroic].	None. No suitable substrate (serpentine or gabbroic soil) present in the WWTP study area or the Sewer Collection System.

Appendix B

Colfax Wastewater Treatment Plant Potentially-Occurring Special-Status Plant Species

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Calystegia vanzuukiae Van Zuuk's morning-glory	Fed: - State: - CNPS: Rank 1B.3	May-August	Chaparral, cismontane woodland. Gabbro, sepentinite.	None. No suitable substrate (serpentine or gabbroic soil) present in the WWTP study area or the Sewer Collection System.
Cyperaceae				
Carex sheldonii Sheldon's sedge	Fed: FSW State: - CNPS: Rank 2B.2	May-August	Lower montane coniferous forest (mesic); riparian scrub. 1200-1755m.	None. No suitable habitat (wetlands) present in the WWTP study area or the Sewer Collection System.
Carex xerophila chaparral sedge	Fed: - State: - CNPS: Rank 1B.2	March-June	Serpentinite, gabbroic. Chaparral. Cismontane woodland. Lower montane coniferous forest.	None. No suitable substrate (serpentine or gabbroic soil) present in the WWTP study area or the Sewer Collection System.
Rhynchospora capitellata Brownish beaked-rush	Fed: FSW State: - CNPS: Rank 2B.2	July-August	Lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest / mesic; elevation range 455 - 2000 meters (approx. 1,493 - 6,652 feet).	None. No suitable habitat (wetlands) present in the WWTP study area or the Sewer Collection System.
Fabaceae (Leguminosae)				
Lathyrus sulphureus argillaceus Dubious pea	Fed: - State: - CNPS: Rank 3.	April-May	Cismontane woodland; upper and lower montane coniferous forest.	Unlikely. Marginal habitat present in undisturbed areas in the WWTP study area and the Sewer Collection System..
Juncaceae				
Juncus digitatus Finger rush	Fed: - State: - CNPS: Rank 1B.1	May-June	Vernal pools (cismontane woodland; lower montane coniferous forest). 660-790 meters.	None. No suitable habitat (wetlands) present in the WWTP study area or the Sewer Collection System.

Appendix B

Colfax Wastewater Treatment Plant Potentially-Occurring Special-Status Plant Species

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Lamiaceae (Labiatae)				
Monardella follettii Follett's monardella	Fed: FSS State: - CNPS: Rank 1B.2	June-September	Lower montane coniferous forest (rocky, serpentinite).	None. No suitable substrate (serpentine soil) present in the WWTP study area or the Sewer Collection System.
Liliaceae				
Fritillaria eastwoodiae Butte County fritillary	Fed: - State: - CNPS: Rank 3.2	March-June	Chaparral; cismontane woodland; lower montane coniferous forest (openings); [sometimes serpentinite]	Unlikely. Marginal habitat present in undisturbed areas in the WWTP study area and the Sewer Collection System..
Malvaceae				
Fremontodendron decumbens Pine Hill flannelbush	Fed: FE State: CR CNPS: Rank 1B.2	April-June	Chaparral; cismontane woodland; [gabbroic or serpentinite].	None. No suitable substrate (serpentine or gabbroic soil) present in the WWTP study area or the Sewer Collection System.
Sidalcea stipularis Scadden Flat checkerbloom	Fed: - State: CE CNPS: Rank 1B.1	July-August	Marshes and swamps (montane freshwater).	None. No suitable habitat (marshes or swamps) present in the WWTP study area or the Sewer Collection System.
Montiaceae				
Lewisia kelloggii hutchisonii Hutchison's lewisia	Fed: FSS State: - CNPS: Rank 3.2	May-August	Upper montane coniferous forest (openings, slate).	None. No suitable habitat (rocky outcrops) present in the WWTP study area or the Sewer Collection System.
Lewisia kelloggii kelloggi Kellogg's lewisia	Fed: FSS State: - CNPS: Rank 3.2	May-July	Conifer forest (decomposed granite, volcanic ash, rubble).	None. No suitable habitat (rocky outcrops) present in the WWTP study area or the Sewer Collection System.

Appendix B

Colfax Wastewater Treatment Plant Potentially-Occurring Special-Status Plant Species

Family Taxon Common Name	Status*	Flowering Period	Habitat	Probability on Project Site
Poaceae (Gramineae)				
Poa sierrae Sierra bluegrass	Fed: FSS State: - CNPS: Rank 1B.3	April-June	Lower montane coniferous forest. 365-1500 m.	None. No suitable habitat (shady, moist slopes) present in the WWTP study area or the Sewer Collection System.

***Status**

Federal:
FE - Federal Endangered
FT - Federal Threatened
FPE - Federal Proposed Endangered
FPT - Federal Proposed Threatened
FC - Federal Candidate
FSS - Forest Service Sensitive
FSW - Forest Service Watchlist

State:
CE - California Endangered
CT - California Threatened
CR - California Rare
CSC - California Species of Special Concern

CNPS (California Native Plant Society - List.RED Code):
Rank 1A - Extinct
Rank 1B - Plants rare, threatened, or endangered in California and elsewhere
Rank 2A- Plants extinct in California, but more common elsewhere
Rank 2B - Plants rare, threatened, or endangered in California, more common elsewhere
Rank 3 - Plants about which more information is needed, a review list
Rank 4 - Plants of limited distribution, a watch list
RED Code
1 - Seriously endangered (>80% of occurrences threatened)
2 - Fairly endangered (20 to 80% of occurrences threatened)
3 - Not very endangered (<20% of occurrences threatened)

Appendix C.
Potentially-Occurring Special-Status Animals in the Region of the Colfax WWTP Study Area

Appendix C

Colfax Wastewater Treatment Plant Potentially-Occurring Special-Status Animal Species

	Status*	Habitat	Probability on Project Site
Insects			
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	Fed: FT State: - Other: *	Requires host plant, elderberry (Sambucus nigra) for its life cycle. Shrubs must have live stem diameters at ground level of 1.0 inch or greater. Occurs in Great Valley and lower foothills.	None. The WWTP study area and the Sewer Collection System are above the species' elevational limit and no suitable habitat (elderberry shrubs) occurs on the WWTP site.
Fish			
Delta smelt *Hypomesus transpacificus*	Fed: FT State: CT Other: -	Endemic to the Sacramento-San Joaquin Delta in coastal and brackish waters. Occurs seasonally in Suisun and San Pablo bays. Spawning usually occurs in dead-end sloughs and shallow channels.	None. The WWTP study area and the Sewer Collection System occur outside of the species' known range.
Amphibians			
California red-legged frog *Rana draytonii*	Fed: FT State: SSC Other: -	Occurs in lowlands and foothills in deeper pools and slow-moving streams, usually with emergent wetland vegetation. Requires 11-20 weeks of permanent water for larval development.	None. No suitable habitat (ponds or slow-moving streams) present within the WWTP study area or the Sewer Collection System. The species is not known from the Colfax area and is likely extirpated.
Foothill yellow-legged frog *Rana boylii*	Fed: - State: CC Other: *	Found in partially shaded, shallow streams with rocky substrates. Needs some cobble-sized rocks as a substrate for egg laying. Requires water for 15 weeks for larval transformation.	None. Limited suitable habitat (shaded, shallow streams) is present within the WWTP study area or the Sewer Collection System. Bunch Creek may support this species but will be avoided by the project. The other drainages in the project area do not provide suitable habitat.
Reptiles			
Western pond turtle *Actinemys marmorata*	Fed: - State: SSC Other: -	Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Needs suitable basking sites and upland habitat for egg laying.	None. No suitable habitat (ponds, marshes, rivers, streams, or irrigation ditches with aquatic vegetation) present within the WWTP study area or the Sewer Collection System.
Coast horned lizard *Phrynosoma blainvillii*	Fed: - State: SSC Other: -	Open lowlands, washes, and sandy areas with an exposed gravelly-sandy substrate containing scattered shrubs. Edge of Sacramento Valley and in the Sierra Nevada foothills. Also observed in riparian woodland clearings and dry uniform chamise chaparral.	None. No suitable habitat (friable soils) present within the WWTP study area or the Sewer Collection System.

Appendix C

Colfax Wastewater Treatment Plant Potentially-Occurring Special-Status Animal Species

	Status*	Habitat	Probability on Project Site
Birds			
California black rail *Laterallus jamaicensis coturnculus*	Fed: - State: CT Other: CFP	Inhabits salt, fresh, and brackish water marshes with little daily and/or annual water fluctuations. In freshwater habitats, preference is for dense bulrush and cattails. Several scattered populations documented from Butte Co. to southern Nevada Co.	None. No suitable habitat (wetlands) present within the WWTP study area or the Sewer Collection System.
Black swift *Cypseloides niger*	Fed: - State: SSC Other: *	Breeds on steep, usually wet cliffs in interior canyons and along the ocean coast.	None. No suitable habitat (cliffs) present within the WWTP study area or the Sewer Collection System.
Mammals			
Townsend's big-eared bat *Corynorhinus townsendii townsendii*	Fed: - State: - Other: SSC	Found in a variety of habitats. Most common in mesic sites with forest or woodland component. Roosting and maternity sites in caves, mines, lava tubes, tunnels, and buildings. Gleans insects from brush or trees and feeds along habitat edges.	None. No suitable roosting sites (caves, mines, lava tubes, etc.) present within the WWTP study area or the Sewer Collection System.
Sierra Nevada mountain beaver *Aplodontia rufa californica*	Fed: - State: SSC Other: -	Dense decidious trees and shrubs in riparian habitat with an abundant source of water.	None. No suitable habitat (riparian areas with an abundant source of water) present within the WWTP study area or the Sewer Collection System.
Sierra Nevada red fox *Vulpes vulpes necator*	Fed: - State: CT Other: *	Occurs in conifer forests and rugged alpine landscape of the Sierra Nevada and Cascade ranges between 4,000 feet and 12,000 feet, most often above 7,000 feet.	None. The WWTP study area and the Sewer Colleciton System lack adequate cover and are too close to human activity.
Fisher - West Coast DPS *Pekania pennanti*	Fed: - State: CT Other: SSC	Occurs in intermediate to large-tree stage coniferous forests and riparian woodlands with a high percent level of canopy closure. .	None. The WWTP study area and the Sewer Colleciton System lack adequate cover and are too close to human activity.

Appendix C

Colfax Wastewater Treatment Plant Potentially-Occurring Special-Status Animal Species

	Status*	Habitat	Probability on Project Site

***Status**

Federal:	State:	Other:
FE - Federal Endangered	CE - California Endangered	Some species have protection under the other designations, such as the California Department of Forestry Sensitive Species, Bureau of Land Management Sensitive Species, U.S.D.A. Forest Service Sensitive Species, and the Migratory Bird Treaty Act. Raptors and their nests are protected by provisions of the California Fish and Game Code. Certain areas, such as wintering areas of the monarch butterfly, may be protected by policies of the California Department of Fish and Game.
FT - Federal Threatened	CT - California Threatened	
FPE - Federal Proposed Endangered	CR - California Rare	
FPT - Federal Proposed Threatened	CC - California Candidate	
FC - Federal Candidate	CFP - California Fully Protected	
FPD - Federal Proposed for Delisting	CSC - California Species of Special Concern	
		WL - CDFG Watch List