Paradise Sewer Project

Final Program Environmental Impact Report

Paradise, California

November 3, 2022

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Terms and Abbreviations

AB	Assembly Bill
AB 52	Assembly Bill 52, Native Americans: California Environmental Quality Act
ABAG	Association of Bay Area Governments
ARB	California Air Resources Board
BACT	Best Available Control Technology
Basin Plan	Water Quality Control Plan for the California Regional Water Quality Control Board Central Valley Region
BCAG	Butte County Association of Governments
BCAQMD	Butte County Air Quality Management District
BCFD	Butte County Fire Department
BCSO	Butte County Sheriff's Office
B-Line	Butte Regional Transit
BMP	Best Management Practice
B.P.	Before Present
BRCP	Butte Regional Conservation Plan
BTUs	British Thermal Units
Butte LAFCo	Butte Local Agency Formation Commission
CAAQS	California Ambient Air Quality Standards
Cal.	Calibrated
CALFIRE	California Department of Forestry and Fire Protection
Cal Water	California Water Service
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CARD	Chico Area Recreation and Park District
CCR	California Code of Regulations
CDC	Centers for Disease Control and Prevention
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act

CFD	Chico Fire Department
CFR	Code of Federal Regulations
CGP	Construction General Permit
Chico WPCP	Chico Water Pollution Control Plant
City	City of Chico (governmental entity and geographic location)
CMC	Chico Municipal Code
CNPS	California Native Plant Society
CO	carbon monoxide
CO2	carbon dioxide
CO2e	carbon dioxide equivalent
COVID-19	Coronavirus Disease 2019
County	County of Butte (governmental entity and geographic location)
CPD	Chico Police Department
CRHR	California Register of Historical Resources
CUSD	Chico Unified School District
CWA	Clean Water Act
cy	cubic yard
dB	decibel
dBA	A-weighted decibel
DOC	California Department of Conservation
DOF	California Department of Finance
DOI	US Department of the Interior
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
EFH	Essential Fish Habitat (NMFS)
EIR	environmental impact report
EMFAC	Emissions Factor Model
EO	Executive Order
FEMA	Federal Emergency Management Agency
FGC	Fish and Game Code
FHSZ	Fire Hazard Severity Zone

FMMP	DOC Farmland Mapping and Monitoring Program
FR	Federal Register
FRA	Federal Responsibility Area
FTA	Federal Transit Administration
GHG	greenhouse gas
GPS	Global Positioning System
GWh	gigawatt-hours
HAPC	Habitat Areas of Particular Concern (NMFS)
HCD	California Department of Housing and Community Development
HDD	horizontal directional drilling
HDR	HDR Engineering, Inc.
HFC-23	fluoroform
HFC-134a	1,1,1,2 tetrafluoroethane
HFC-152a	difluoroethane
Hot Spots Act	AB 2588, Air Toxics “Hot Spots” Information and Assessment Act of 1987
hp	horsepower
HUC	Hydrologic Unit Code
in/sec	inch per second
kV	kilovolt
kWh	kilowatt hours
LAFCo	Local Agency Formation Commission
lb	pounds
Ldn	Day-Night Average Sound Level
Leq	Equivalent Sound Level
Lmax	Maximum Sound Level
LHMP	Butte County Local Hazard Mitigation Plan
LID	Low Impact Development
LOS	level of service
LRA	Local Responsibility Area
LTCRP	Long Term Recovery Plan
LTS	less than significant

LUST	leaking underground storage tank
Lv	Vibration Velocity Level
MBTA	Migratory Bird Treaty Act of 1918
mgd	million gallons per day
µg/m3	micrograms per cubic meter
MM	mitigation measure
MS4	Municipal Separate Storm Sewer System
MT	metric tons
N2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
Natural Strategy	The National Strategy: The Final Phase in the Development of the National Cohesive Wildland Fire Management Strategy
NEPA	National Environmental Policy Act
NH4	methane
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic and Safety Administration
NI	no impact
NO	nitric oxide
NO2	nitrogen dioxide
NOP	Notice of Preparation
NOx	nitrogen oxide
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NHRP	National Register of Historic Places
O3	ozone
OHWM	ordinary highwater mark
Pac	USFWS Information for Planning and Consultation system
Pb	lead
PEIR	Program Environmental Impact Report

PFD	Paradise Fire Department
PFYC	Potential Fossil Yield Classification
PG&E	Pacific Gas and Electric Company
PID	Paradise Irrigation District
PM2.5	particulate matter 2.5 micrometers and smaller
PM10	particulate matter 10 micrometers and smaller
PPD	Paradise Police Department
PPV	Peak Particle Velocity
PRC	Public Resources Code
Proposed Project	Paradise Sewer Project
PRPD	Paradise Recreation and Park District
PUSD	Paradise Unified School District
PVC	polyvinyl chloride
RHNA	Regional Housing Needs Allocation
RMS	Root Mean Square
ROG	reactive organic gases
ROW	right-of-way
RTP/SCS	Butte County 2020 Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Central Valley Regional Water Quality Control Board
SB	Senate Bill
SI	significant impact
S/M	significant impact but mitigable to a less-than-significant level
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO2	sulfur dioxide
SOI	sphere of influence
SOx	sulfur oxides
SR	California State Route
SRA	State Responsibility Area
SRPAC	Sewer Regionalization Project Advisory Committee
SSA	Sewer Service Area

SSSGO	Sanitary Sewer Systems General Order
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
Tanner Act	Toxic Air Contaminant Identification and Control Act
TCR	tribal cultural resource
THPO	Tribal Historic Preservation Officer
Town	Town of Paradise (governmental entity and geographic location)
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Surveys
VdB	vibration decibel
VMT	vehicle miles traveled
WIFIA	Water Infrastructure Finance and Innovation Act
Williamson Act	California Land Conservation Act of 1965
zone	Town of Paradise Onsite Wastewater Management Zone

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ES1 Executive Summary

This Program Environmental Impact Report (PEIR) has been prepared by the Town of Paradise (Town), California, which is the lead agency for the Paradise Sewer Project (Proposed Project) in accordance with the California Environmental Quality Act (CEQA). Per CEQA, the lead agency for a project is the "public agency with principal responsibility for carrying out or approving a project. The Lead Agency will decide whether an EIR (Environmental Impact Report) or Negative Declaration will be required for the project and will cause the document to be prepared" (CEQA Guidelines Section 15367).

The City of Chico (City), the Butte Local Agency Formation Commission (Butte LAFCo), the Central Valley Regional Water Quality Control Board (RWQCB), Butte County (County), and the California Department of Fish and Wildlife (CDFW) are considered Responsible Agencies under CEQA based on their discretionary approval power over some aspects of the Proposed Project and would consider use of this PEIR for their CEQA compliance.

This PEIR addresses the potential environmental effects of construction, operation and maintenance of the Proposed Project.

ES1.1 Project Background

For a number of years, the Town has pursued a municipal solution for wastewater treatment to address failed septic systems that have degraded local groundwater quality and constrained affordable housing, essential community services, and related economic growth. Reliance on septic systems has resulted in two areas of concern: environmental impacts and economic impediment. Failed septic systems release untreated wastewater into groundwater or at the ground surface, resulting in environmental degradation and public health risk due to water contamination or exposure to untreated wastewater. Economically, the lack of a sewer system has suppressed the development of a sustainable business community by limiting the size and types of businesses that can affordably operate in the community. Development of affordable housing and workforce housing also has been hindered as larger housing facilities require more sewer treatment capacity than a traditional septic system can provide within the available parcel sizes. As a result of these concerns, the Town worked diligently for more than 50 years, even prior to its incorporation in 1979, to identify a feasible wastewater treatment solution for the community, with a priority to provide service to those commercial and densely populated residential areas with failed and failing septic systems.

Results of a Phase I wastewater management study conducted for the Town in 1983 showed evidence of high levels of fecal coliform and septic system effluent in the water supply, resulting in degradation of water quality (Montgomery 1983). This study recommended that a sewer system or centralized wastewater management facility be considered for the Town (Montgomery 1983). Since 1983, numerous wastewater management studies have been prepared for the Town. On October 25, 1990, via Town of Paradise Resolution No. 90-47, the Town Council officially formed a Wastewater Design Assessment District for the purpose of developing a wastewater collection, treatment, and disposal facility. The proposed sewer system was to serve only the core commercial area of the community. In a letter dated May 4, 1992, the RWQCB approved the Town's plans to establish an "Onsite Wastewater Management Zone" (zone) to address public health and environmental concerns noted in previous

studies (RWQCB 1992). The purpose of the formation of this zone, which remains in existence today, was to identify, permit, inspect, monitor, and regulate repairs and new construction of on-site wastewater systems that are required for new development (Town of Paradise 2022a). As of 2021, the zone permits and regulates more than 11,000 various wastewater systems. The collective individual septic systems vary in complexity, from standard septic tanks and absorption fields to small biological wastewater treatment systems (Town of Paradise 2022a). If the Proposed Project were implemented, the zone would remain active for those parcels that do not connect or have not yet connected to the sewer system.

In 2017, the Town completed a feasibility study, which evaluated advancing a sustainable wastewater solution for the benefit of the Town's economy, environment, and community. The *Town of Paradise Sewer Project, Alternatives Analysis and Feasibility Report: Determining a Preferred Option for Implementation* (Bennett Engineering 2017) analyzed several options, including a "No Project" option, and identified the most feasible solution and next steps. Three local options and the Chico Water Pollution Control Plant (Chico WPCP) regional connection option were analyzed to address sewer service reliability problems and select the best alternative for the Town to carry forward to district formation, preliminary design, and environmental review. The socioeconomic study projected benefits to the Town and region, including an additional 161 jobs, additional $12.8 million in sales and output to the region in all sectors, regional long-term impact of $68 million in private and public investment, and $56 million increase in the property tax base (Bennett Engineering 2017). The study also predicted a 5 to 13 percent property value increase for parcels within the sewer district. The regional connection to the Chico WPCP was recommended by the study as the best long-term solution for the Town (Bennett Engineering 2017).

On November 8, 2018, the Camp Fire severely impacted the Town. More than 26,000 Town residents were displaced; 90 percent of structures in the Town, including more than 11,000 homes and 1,000 businesses, were burned to the ground; and, most tragically, 85 people lost their lives. The 2018 Camp Fire affected the Town's business and management operations as resources were redirected toward recovery, which temporarily delayed further development of a municipal wastewater solution for the Town. Concurrently, private septic systems within the Town were found to be damaged by the fire, which in turn further degraded local groundwater quality and compounded the pre-fire sewer needs. These additional impacts from the Camp Fire again constrained affordable housing, essential community services, and overall economic growth, while the Town endeavored to rebuild without a municipal sewer system in place.

In late 2019, the Town re-evaluated the previous study performed by Bennett Engineering in 2017 to explore a wastewater collection system in light of the additional impacts resulting from the 2018 Camp Fire, including septic system replacements, re-population within the sewer service area, and sewer impacts that had continued to occur since the 2017 study.

The Town continued to study wastewater discharge and treatment alternatives, including local treatment and disposal, as well as a regional treatment alternative at the Chico WPCP. In 2020, the Town received an *Evaluation of Wastewater Treatment Plant Options, Town of Paradise, Butte County* memorandum from the RWQCB. In the memorandum, RWQCB stated that the regional option presents

an objectively more sustainable long-term solution to the Town's wastewater infrastructure needs (RWQCB 2020).

The Town performed a detailed analysis of alternatives, in coordination with the City and RWQCB, from an environmental impact, cost, and operational standpoint. In partnership with the RWQCB and City, the regional approach to providing sewer service to the Town, by connecting to the existing Chico WPCP, was pursued over alternative options to build a new stand-alone treatment facility for the Town.

During these studies, it was also determined that the estimated average wastewater conveyance and treatment need for the sewer service area would be 0.464 million gallons per day (mgd). This flow rate would accommodate current repopulation and possible future growth, consistent with the current *Town of Paradise 1994 General Plan* and *Town of Paradise 2022–2030 Housing Element Update* (Town of Paradise and Quad Consultants 2008, Town of Paradise 2022a). The Town is preparing this PEIR to determine the feasibility of a regional wastewater treatment solution to fulfill this 0.464 mgd wastewater treatment need.

ES1.2 Project Location

Paradise is within eastern Butte County, California, in the western foothills of the Sierra Nevada Mountains. Its topography is characterized by intervening ridges and valleys sloping to the southwest, with elevations ranging from around 1,080 to 2,320 feet. The Town is bordered on the east by the western branch of the Feather River and on the west by Little Butte Creek. It is approximately 12 miles east of Chico, 20 miles northwest of Oroville, and 90 miles north of Sacramento. The Town is connected to Chico via Skyway, a Butte County roadway, and to Oroville via California State Route (SR) 191, which is known as Clark Road upon entering the Town from the south.

Chico, also in Butte County, sits on the Sacramento Valley floor, close to the foothills of the Sierra Nevada range to the east. Chico's terrain is generally flat, with increasingly hilly terrain beginning at the eastern City limits. Chico is traversed by two creeks: Big Chico and Little Chico Creeks. These waterbodies discharge into the Sacramento River. SRs 32 and 99 comprise Chico's regional transportation network. SR 32 connects Chico residents to Glenn and Plumas Counties to the west and east, respectively. SR 99 connects residents to Tehama and Sutter Counties to the north and south, respectively. Chico is the most populous city in Butte County, with a population of 102,892 in January 2022 (California Department of Finance [DOF] 2022).

The project location is shown in Figure ES-1.

ES1.3 Project Need and Objectives

Paradise is the largest town in California that relies solely on septic systems for the treatment and disposal of its wastewater (BCAG 2019a). Relying on private septic systems due to the lack of a municipal sewer collection system has a twofold implication: (1) the effect on the human and natural environment, and (2) the effect on the area's economy and recovery from the 2018 Camp Fire.

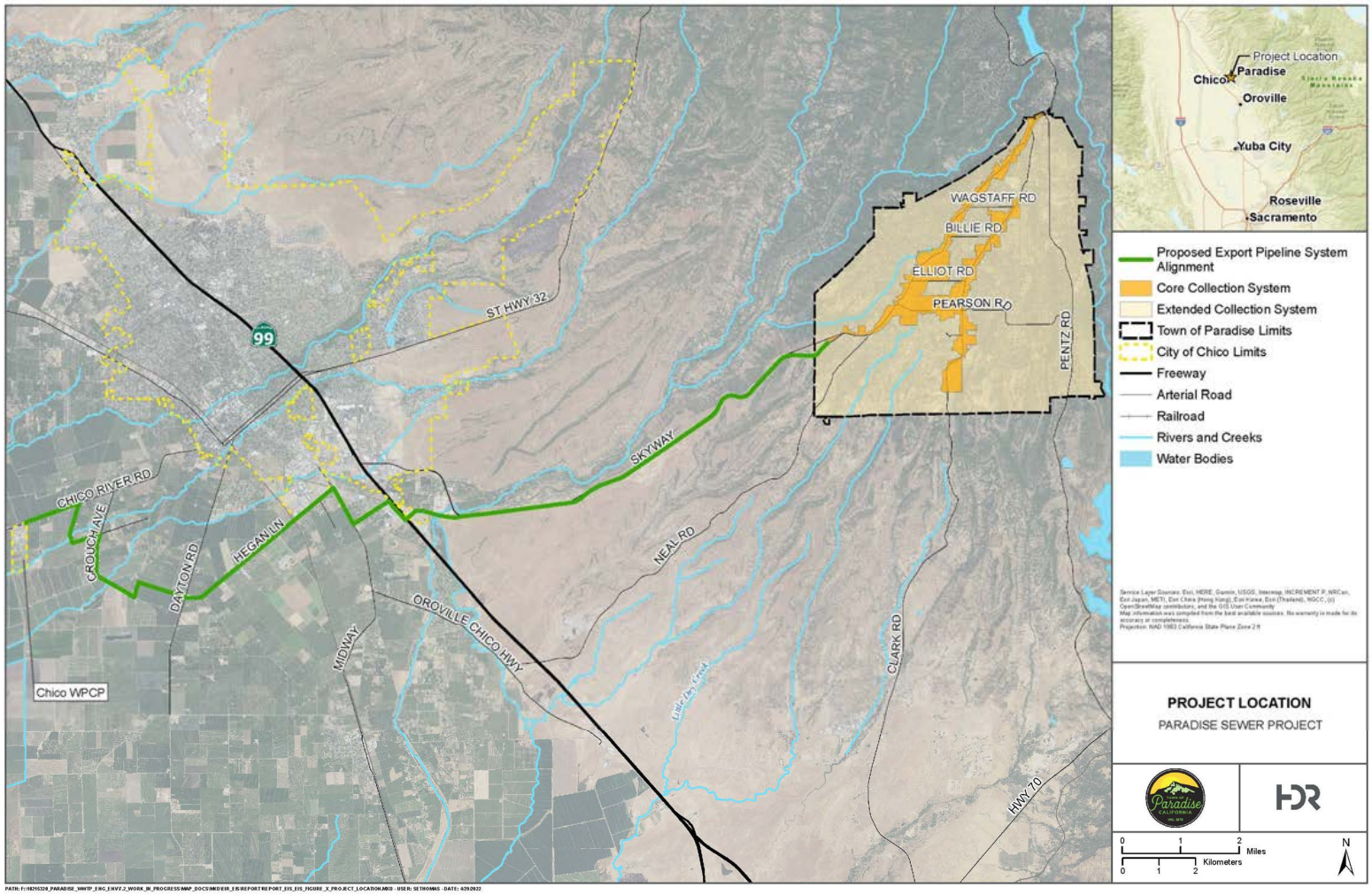

Figure ES-1. Proposed Project Location

The lack of reliable sewer infrastructure, due to the probability of failure and limitations on treatment and discharge within the current septic system network, poses an environmental threat to groundwater and surface water quality. When a septic system fails, it can either contaminate the groundwater underneath it or surface water nearby, creating environmental concerns for nearby streams and lakes as well as polluting the drinking water supply. Prior to the 2018 Camp Fire, the Town struggled to support a thriving economy, in part due to the lack of sewer availability. Conditions since the 2018 Camp Fire are amplified with even fewer businesses able to open or reopen due to septic failures or required upgrades that are cost prohibitive. Commercial parcels in Town are generally small in size and concentrated in a core commercial area that provides limited space for septic tanks and leach fields. These restrictions are compounded by siting restrictions such as high groundwater and poor drainage due to the local soil composition. As a result, existing Town businesses have been severely constrained due to their septic system discharge exceeding the available capacity of the land itself, while new businesses are often forced to open elsewhere due to the limitations placed on them to operate with an on-site septic system. Three primary objectives and associated goals drove the development of the Proposed Project:

- Provide long-term, efficient, reliable treatment of wastewater in a cost-effective, environmentally beneficial manner to current and returning Town residents, in a manner acceptable to the RWQCB and other permitting agencies:
    - Accommodate regrowth while reducing further environmental degradation of groundwater and surface water from failing septic systems
    - Reduce the public health risk associated with failing septic systems
- Generate economic recovery by eliminating septic-related capacity limitations, as well as the general burden of on-site wastewater management for businesses:
    - Promote the return or arrival of essential community services and businesses by removing restrictions caused by on-site septic systems
- Provide for the ability to construct and maintain affordable housing, specifically multi-family housing:
    - Support centralizing affordable housing to Paradise's urban core, along major evacuation routes

ES1.4 Required Permits and Approvals

The required federal, State, and local permits and approvals to move the Proposed Project forward are listed in Table ES-1.

Table ES-1. Anticipated Required Permits and Approvals

Agency and Jurisdiction	Permit, Approval, or Clearance	Relevance
Federal		
US Army Corps of Engineers: Clean Water Act	Section 404 Permit	Permanent or temporary placement and/or removal of material in waters of the US or state, including wetlands
US Fish and Wildlife Service: Endangered Species Act	Section 7 Consultation, Letter of Concurrence	Presence of federally listed plant and wildlife species and critical habitat within the impact area if unable to avoid through siting of horizontal directional drilling or temporary disturbance areas
National Marine Fisheries Service: Endangered Species Act, Magnuson Stevens Essential Fish Habitat	Section 7 Consultation, No Effect Determination	Intent to pursue no effect determination through avoidance of federally listed anadromous fish and critical habitat within the impact area
State Historic Preservation Officer: Section 106 of the National Historic Preservation Act (NHPA)	Concurrence on adequacy of identification effort, National Register of Historic Places eligibility determinations, and Finding of Effect	Aligned with federal permits and consultations
Native American Tribes: • Konkow Valley Band of Maidu • Mechoopda Indian Tribe	Tribal consultation per Section 106 of the NHPA	Tribal consultation, aligned with Assembly Bill 52, Native Americans: California Environmental Quality Act (AB 52) consultation
State		
Native American Tribes: • Konkow Valley Band of Maidu • Mechoopda Indian Tribe	Tribal consultation per AB 52	Tribal consultation, aligned with the CEQA process
State Water Resources Control Board	NPDES Construction Stormwater General Permit	Land disturbance exceeding thresholds
CDFW **(Responsible Agency)**	• Section 2081 Incidental Take Permit • Lake and Streambed Alteration Agreement Both applications require a completed CEQA clearance	• Presence of state-listed (threatened) Swainson's hawks nesting within the impact area • Three trenchless stream crossings
California Department of Transportation	Section 660 of the California Streets and Highways Code	Specific to the trenchless crossing of Highway 99 by the export pipeline
Local		
Butte County **(Responsible Agency)**	Approval for installation and operations and maintenance of the export pipeline and any appurtenant facilities located within County rights of way; **specifically, for encroachment permits within County rights of way.**	Specific to the proposed export pipeline that would be constructed within Butte County ROW

Agency and Jurisdiction	Permit, Approval, or Clearance	Relevance
Private Landowner	Permanent or temporary easements	Specific to the proposed export pipeline installation on two private parcels in City limits when pipeline would leave Skyway and to connect portions of the sewer system to each other within the Core Collection Area
City of Chico **(Responsible Agency)**	Approval to connect the sewer system to the Chico WPCP	Specific to the export pipeline connection to the Chico WPCP
RWQCB **(Responsible Agency)**	• Water Quality Certification for dredge or fill impacts • Sanitary Sewer General Order permit	• Permanent or temporary placement and/or removal of material in waters of the US or state, including wetlands; three proposed trenchless crossing could trigger the need for a Water Quality Certification due to risk of frac-out during construction. • The Town will need coverage under the General Order as an owner/operator of a collection system that is longer than 1 mile
Butte LAFCo **(Responsible Agency)**	Approval to extend the Chico sewer service area	Extension of the Chico sewer service area to include Town
Other		
Union Pacific Railroad (UPRR)	Permit or Easement Agreement	Specific to the export pipeline use of an abandoned UPRR parcel when leave Skyway and trenchless export pipeline crossing of active UPRR track

ES1.5 Proposed Project Components

The Proposed Project would consist of three primary components: Core Collection System, Export Pipeline System, and Extended Collection System. The first two components are analyzed in this PEIR at a project level because sufficient information is available about the characteristics, timing, and locations of these proposed components. Because the Extended Collection System is conceptual in definition and the characteristics, timing, and/or locations of the necessary buried gravity and pressure lines, maintenance holes, and pump stations are not available at the time of PEIR preparation, the Extended Collection System build-out is analyzed at a programmatic level in this PEIR.

Although not a physical change to the environment and, therefore, not required to be included in this PEIR (CEQA Guidelines 15064(d)), the Proposed Project would require the City and Town to enter into an inter-municipal agreement to capture the contractual terms for the provision of wastewater treatment services from the Chico WPCP to the Town (Government Code Section 56133) and a formal agreement or other mechanism for the construction and maintenance of facilities within the Butte County-maintained rights-of-way.

Approval from the Butte County LAFCo is required for the extension of services beyond the boundaries of Chico to allow the City to provide wastewater treatment services to the Town (Government Code Section 56133); therefore, this action is considered in this PEIR.

The following sections describe each of the three Project components and associated construction-related activities, where applicable.

ES1.5.1 Core Collection System

Location and Description. The infrastructure proposed to serve Paradise's sewer service area within a portion of the Town is called the Core Collection System, which aligns with what is defined as the Sewer Service Area (SSA) in the *Town of Paradise 2022 Housing Element*. The Core Collection System would support the centralized businesses and housing in Town, including approximately 1,500 parcels along the Skyway, Clark Road, and Pearson Road corridors (approximately 13 percent of the 11,500 total parcels within Town limits). Construction of the Core Collection System would disturb approximately 10.67 acres. The Core Collection System is shown in Figure ES-2.

The Proposed Project would add an additional 0.109 mgd of wastewater from the Town to the Chico WPCP influent at the time of initial connection (estimated for late 2026). The estimated maximum wastewater conveyance and treatment need for the sewer service area is 464,000 gallons per day (0.464 mgd). This accounts for current and future estimated growth consistent with the current *Town of Paradise General Plan* and *Town of Paradise 2022-2040 Housing Element Update*, and would be realized over a projected 30-year planning horizon (Town of Paradise and Quad Consultants 2008, Town of Paradise 2022a).

The Core Collection System would be sized to serve parcels within the Town's sewer service area and would consist of:

- A system of gravity sewers, which would use energy resulting from a difference in elevation to remove wastewater;
- Small pump stations used to move wastewater to higher elevations to allow subsequent transport by gravity flow;
- Force (pressurized) mains, which are pressurized sewer pipes that convey water under pressure from the discharge side of the pump and are often used where gravity is not enough to move wastewater through a sewer line; and
- A system of gravity sewers, which would use energy resulting from a difference in elevation to remove wastewater.

Most of the Core Collection System components would be constructed within the existing Town right-of-way (ROW). Temporary private easements could be required to install components of the Core Collection System, such as pipelines or pump stations. Because of the varied topography within the sewer service area, pump stations and pressurized force mains would be required to pump flows out of valleys and other low-lying areas to adjacent gravity sewers.

The Core Collection System would consist of approximately 157,000 feet of 6- to 8-inch-diameter gravity sewers, 29,000 feet of 2- to 4-inch-diameter force mains, and up to 28 pump stations. The

pipelines would be buried approximately 3 to 15 feet below the ground surface, depending on local topography and sewer system design features and constraints. At individual parcels (residential dwellings and businesses), public sewer laterals (typically 4 inches in diameter) would extend from the Core Collection System's gravity sewer main to the property line, transitioning to a private sewer lateral within the parcel, leading to the structure.

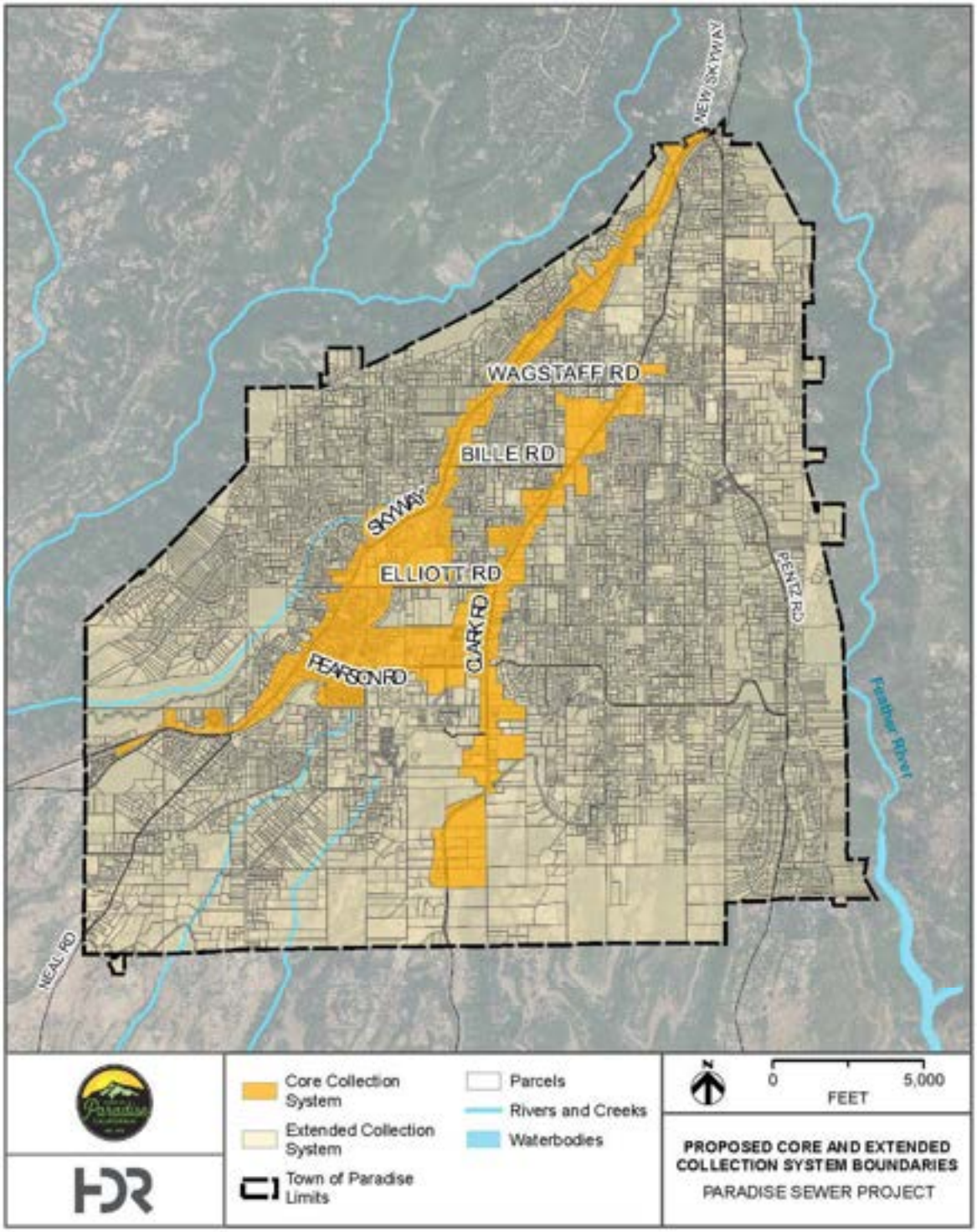

Figure ES-2. Town of Paradise Proposed Core and Extended Collection System Boundaries

Construction Methods. Construction within the Town's ROW would use open-cut trenching methods to install the pipes and structures that comprise the Core Collection System. Open cut trenching is a method of installation that requires opening up the surface of the ground to install, repair or replace a new structure, such as a pipe, conduit, or cable. Where located within public streets, portions of the Town's ROW would serve as a temporary construction zone, with restricted access to the ROW to allow trenching equipment to dig trenches. Work crews would install the pipe and structures, then backfill the excavation, restore the ground surface to its previous or better conditions and re-establish full access to the area. The required maintenance holes and pump stations would involve similar construction methods of open cut, installation, backfill, and restoration.

Materials. The following excavated and fill materials are anticipated for Core Collection System construction (HDR 2022): export of 169,400 cubic yards of soil and import of 62,600 cubic yards of fill material. Other materials that would be used in the Core Collection System construction (HDR 2022) include: polyvinyl chloride (PVC) pipe and miscellaneous fittings, pre-built pump stations and associated mechanical/electrical components, temporary and permanent paving (asphalt), and backfill material.

Schedule. Based on an anticipated 22-month construction period for the Core Collection System, an average of 750 round-trip truck trips distributed across an average of 11 crews working at a given time would be generated each working day during construction (HDR 2022). Based on an anticipated 22-month construction period, installation of the Core Collection System would require multiple crews to be working at the same time (HDR 2022).

Easement Requirements. The majority of the Core Collection System would be installed within the Town's ROWs (i.e., Town streets, existing public ROW). However, small segments of the Core Collection System may need to cross private parcels to install components of the Core Collection System, such as pipelines or pump stations. In those cases, easements would be acquired from the property owners.

ES1.5.2 Export Pipeline System

Location and Description. The proposed Export Pipeline System would start at the southern end of the Core Collection System as a gravity sewer line and would continue southwest approximately 18 miles to the City for connection to the Chico WPCP. In total, construction of the Export Pipeline System would disturb approximately 5.95 acres. The system would be primarily constructed within Butte County public ROW, except for approximately 5,700 feet (1.1 miles) of pipeline in southern Chico on privately owned parcels and at the connection with the Chico WPCP . In the southern Chico location, the proposed pipeline alignment leaves the Butte County public ROW at Skyway and runs first along an inactive Union Pacific Railroad (UPRR)-owned parcel before crossing two private parcels located within the City limits just east of SR 99. This segment comprising the UPRR parcel and the two private parcels in the City is the only section along the proposed Export Pipeline System that is not in the public ROW, other than the connection with the Chico WPCP. The segment for connection to the Chico WPCP would fall within the WPCP site, which is City property. Further, the crossing of the two private parcels and the final connection at the Chico WPCP are the only segments of the Proposed Project that would fall within City boundaries. Figure ES-3 shows the Export Pipeline System route.

The Proposed Export Pipeline System would include the following sub-components:

- **Ridge Gravity Section**: The Export Pipeline System begins with the Ridge Gravity Section. In this section, the wastewater flows by gravity and no pump stations would be required. To handle both the initial low wastewater flows and future build out flows, two separate gravity sewer pipes, with an accompanying fiber-optic conduit for pipeline operations, will be installed within the County ROW.
- **Transition Chamber**: The Transition Chamber would provide the necessary transition of the wastewater flow from the steep Ridge Gravity Section to the Gravity Force Main Section that runs along the flatter portions of the valley floor, connecting the Gravity Force Main Section to the Chico WPCP. The Transition Chamber would be installed along Skyway, just before the pipeline reaches the City limits. The chamber would be a below-ground (likely cylindrical) structure with a small box-like structure above ground to house electronics associated with measurement devices within the chamber.
- **Gravity Force Main Section**: Flow leaving the Transition Chamber would be pressurized based on the gravity flow from the Ridge Gravity Section, and the pipe would flow full, creating a beneficial force main based on the hydraulic behavior of the sewer, so the effluent can reach the Chico WPCP. The Gravity Force Main Section would consist of a pipe, with an accompanying fiber-optic conduit. The pipeline would be installed along existing roads within the County ROW, or within permanent sewer easements obtained from private property owners, if necessary.
- **Maintenance Holes**: Approximately 80 maintenance holes, which are required for the maintenance of the pipelines, would be placed along the Ridge Gravity and Gravity Force Main Sections.
- **Flow Control and Metering Structure**: A Flow Control and Metering Structure, located at or near the Chico WPCP, would consist of two below-ground circular chambers (or similar) next to each other. Similar to the Transition Chamber, a small, above-ground, box-like structure would house electronics associated with the flow control and measurement devices installed below ground. The first below-ground chamber would be dry (the wastewater would remain within the pipe that is exposed within the chamber) and would contain a magnetic flow meter and a pressure gauge on the pipeline. The second chamber would be wet, with the wastewater discharging into the chamber via a modulating plug valve. A modulating plug valve would keep the Transition Chamber and Gravity Force Main Sections full, to maintain the hydraulic function of the Gravity Force Main Section. In this chamber, the wastewater would travel through the modulating valve, discharge into the open chamber, and then flow by gravity from the second chamber to the existing Influent Sewer Junction Box A at the Chico WPCP. This would be the terminus of the Export Pipeline System.

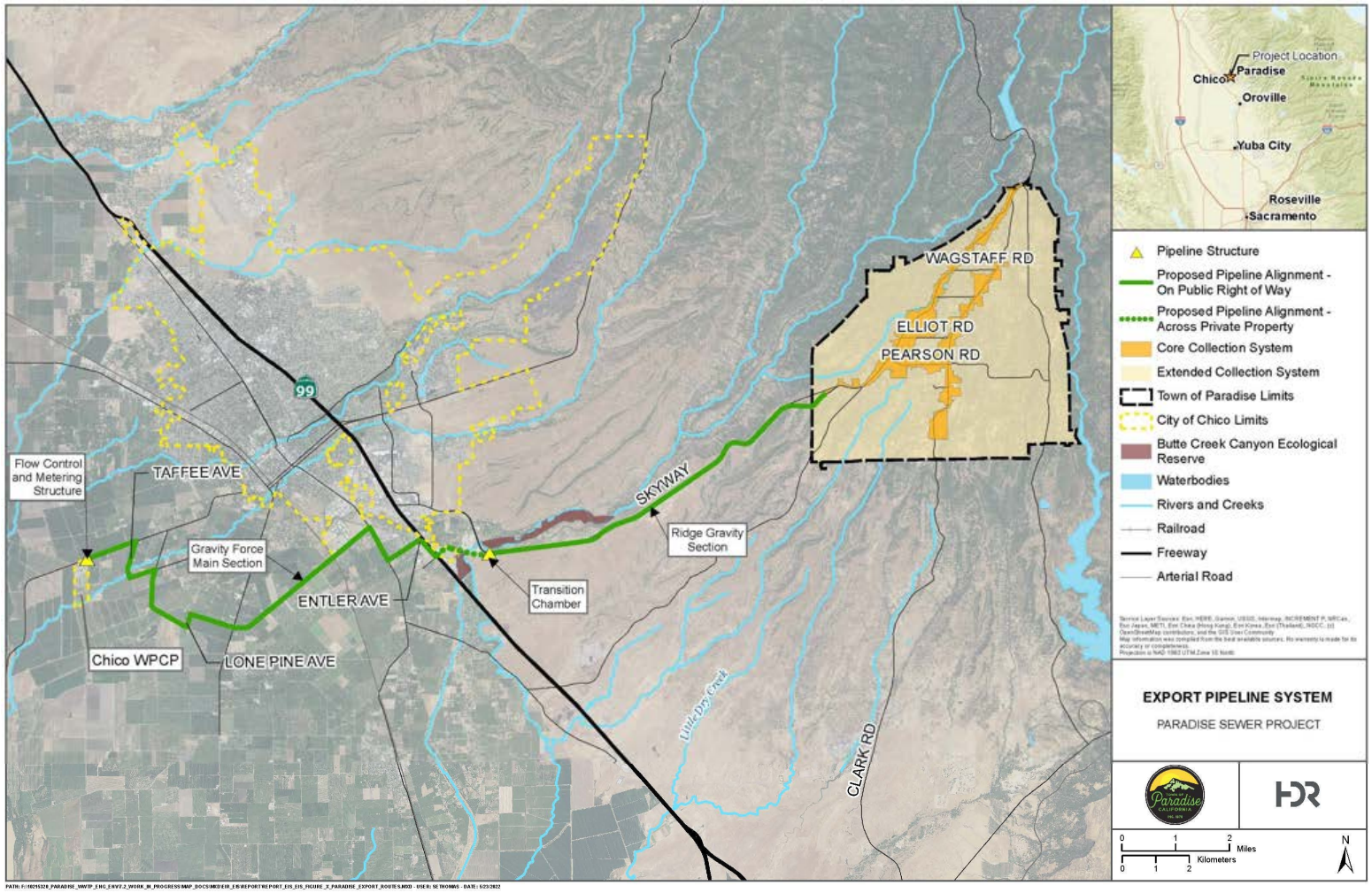

Figure ES-3. Export Pipeline System

- **Fiber-optic Conduit:** The Proposed Project includes two below-ground structures along the Export Pipeline System: a Transition Chamber and a Flow Control and Metering Structure. These two structures include instruments that would monitor various parameters of the wastewater, such as water levels, valve positions, and wastewater flow rate. To reliably communicate the signals from those electrical instruments to the Town and the Chico WPCP, the Proposed Project would include installation of a fiber-optic conduit in the same trench as the Export Pipeline System. The conduit would be made of metal, PVC, or fiberglass braiding, and would be placed above the pipelines.
- **Chico WPCP Connection**: The southern end of the Export Pipeline System would connect to the existing Chico WPCP. This connection would involve using an existing stub-out pipe or drilling a hole in an existing below-ground concrete box at the facility and connecting the new pipeline. Consistent with existing operations, the wastewater would be treated at the Chico WPCP and discharged to the Sacramento River through a submerged outfall diffuser. It is anticipated that the Town's connection would fall within the requirements of the current National Pollutant Discharge Elimination System (NPDES) permit.

Construction Methods. The Export Pipeline System would generally be constructed using open-cut methods (also known as open-trench method). The construction sequence would consist of (1) backhoe excavation; (2) shoring systems installation for trench excavation protection to achieve the excavation depth; (3) pipe installation; and (4) trench backfill placement, with subsequent shoring system removal and ground surface restoration.

A trenchless construction method is proposed at five locations (Butte Creek and Butte Creek Canyon Ecological Reserve, Comanche Creek, Little Chico Creek, SR 99, and UPRR) along the proposed Export Pipeline System route. The trenchless crossings would be constructed using either horizontal directional drilling (HDD) or microtunneling methods, depending on the feature being crossed. Both methods would involve excavated pits at either end of the crossing to allow pipe installation beneath the feature (e.g., creek, highway, railroad), and avoiding the disruption of excavation at the surface of the specific feature location.

Materials. The following excavated and fill materials are anticipated for Export Pipeline System construction (HDR 2022): export of 60,800 cubic yards of soil and import of 22,900 cubic yards of fill material. Other materials that are anticipated to be used on the Export Pipeline System construction (HDR 2022) include: PVC pipe and miscellaneous fittings, concrete maintenance holes, precast concrete cylinders, metal carrier pipe, temporary and permanent paving (asphalt), and backfill material.

Schedule. Installation of the Export Pipeline System would occur over an 18-month construction period and would require multiple crews to be working at the same time.

Easement, Encroachment, or Access Permission Requirements. The Skyway segment of the Export Pipeline System is located within the County public ROW; therefore, construction would require a form of access agreement with general and special County conditions, as well as an ongoing access agreement for maintenance activities. Once the pipeline alignment departs from Skyway to head towards the Chico WPCP, it would remain within an inactive UPRR rail corridor parcel before bisecting two private parcels, owned by a single landowner; these crossings would require ROW acquisitions

from UPRR and the private property owner. The total length of pipeline that would be on private parcels is approximately 5,700 feet (1.1 miles). For crossing the private parcels, the Town would purchase both temporary (construction) and permanent easements from the parcel owner. The construction easements would provide sufficient space to install the export pipeline as well as for construction vehicles to move across the parcels and reach public roads. The permanent easements would be necessary to allow future access to the pipelines, should maintenance work be required. The pipeline would then cross SR 99, requiring a Caltrans encroachment permit, and finally reconnect to the County public ROW at Entler Avenue. The pipeline would follow County public roads to the Chico WPCP, again requiring County permits. Along this segment, the pipeline makes a trenchless crossing of an active UPRR rail corridor, requiring an additional UPRR encroachment permit.

ES1.5.3 Extended Collection System

The Extended Collection System would be an extension of the Core Collection System that would allow collection of sewage from parcels outside the Core Collection System, within the Town limits. The Extended Collection System is shown in Figure ES-2. The flow from the Extended Collection System and Core Collection System combined would be limited to the total discharge agreed to between the Town and City, which is currently set at 0.464 mgd, the estimated build-out of the sewer service area. However, the overall purpose of the Proposed Project is not to serve the entire Town. Areas will continue to exist that are served by the existing District. Instead, the Extended Collection System will provide an opportunity for other property owners within Town limits to connect, particularly those owners with properties near the Core Collection System boundaries that aim to serve higher density uses, such as commercial or multi-family housing. In addition, no portion of the Extended Collection System would extend beyond the Town limits in any case. No sewer service connections would be considered outside the Town and pursuant to the principals of agreement with Chico, the project is not designed or intended to serve properties in unincorporated Butte County.

The Extended Collection System would consist of force mains, gravity trunk lines, and additional pump stations. It would likely be constructed as multiple smaller efforts, with geographically similar clusters of parcels within the Town limits being treated as separate individual projects. The methods and materials used to construct the Extended Collection System would be similar to the Core Collection System. If an Extended Collection System is implemented in the future, it is assumed that similar crew composition and sizes as well as construction equipment would be used, but for shorter durations.

ES1.6 Proposed Schedule

Construction of the Core Collection System would occur over approximately 22 months, with mobilization beginning in August 2024 and completion by May 2026. The Export Pipeline System would be constructed over an 18-month period beginning in August 2024 and ending in January 2026. The Core Collection System and the Export Pipeline System would go through their own individual startup periods, to confirm operation of each one individually. The entire Project would then go through a 2-month system start-up period in June and July 2026. Construction of the Extended Collection System would occur following completion of construction of the Core Collection System and Export Pipeline System, and would be expected to occur between 2026 and 2056.

The Proposed Project within the Core Collection System area would be operational in 2026, with consideration of the Extended Collection System connections through 2056. While the Proposed Project would be in place and able to receive inflow and discharge to the Chico WPCP in 2026, actual sewer flow would be discharged into the pipeline as the private properties connect to it. Initially, the Proposed Project would add 0.109 mgd of wastewater from the Town to the Chico WPCP influent. The full build-out flow of 464,000 gallons per day (0.464 mgd) may not be realized until 2057 or beyond.

ES1.7 Proposed Staging, Traffic Management, and Access Points

Figure ES-4 shows the location of the potential staging areas. Up to 11 staging areas for equipment and materials have been identified for potential use by the contractor to maximize access to work areas and store material. These areas have also been selected because they avoid effects on sensitive environmental resources. Staging areas would have temporary fencing installed to provide a secure storage area and might require minor grading to create a level work surface. No permanent paving would be done. Any unpaved areas temporarily used for construction staging would be returned to their original or better condition. If staging areas are located on public property, encroachment permits would be obtained from the public agency that owns the property. If staging areas are located on private property, temporary construction easements would be acquired from the private property owner.

No permanent road closures would result from construction of the Proposed Project. Temporary full road closures are not anticipated; however, could occur, if necessary for public safety for a short duration (approximately 2 to 4 hours). No road closures are planned within City limits. For locations where the pipeline is being installed along existing Town or County public ROW, temporary, single-lane road closures with traffic controls around the work areas could occur along the following roads:

- Skyway
- Entler Avenue
- Midway
- Hegan Lane
- Elk Avenue
- Lone Pine Avenue
- Crouch Avenue
- Chico Avenue
- Taffee Avenue
- Chico River Road

The Export Pipeline System would be primarily constructed within the County public ROW, except for approximately 5,700 feet (1.1 miles) of pipeline construction in southern Chico. Where the proposed pipeline alignment leaves the Butte County public ROW at Skyway, it would remain within an inactive UPRR corridor parcel before bisecting two private parcels located within the City limits. For all construction, trucks moving equipment in and out, hauling away excess material, and importing material would move across the parcels within boundaries outlined in temporary construction easements to reach the public roads or remain within public ROW. Trucks hauling loose materials, such as soil and gravel, would be covered to prevent damage to other vehicles.

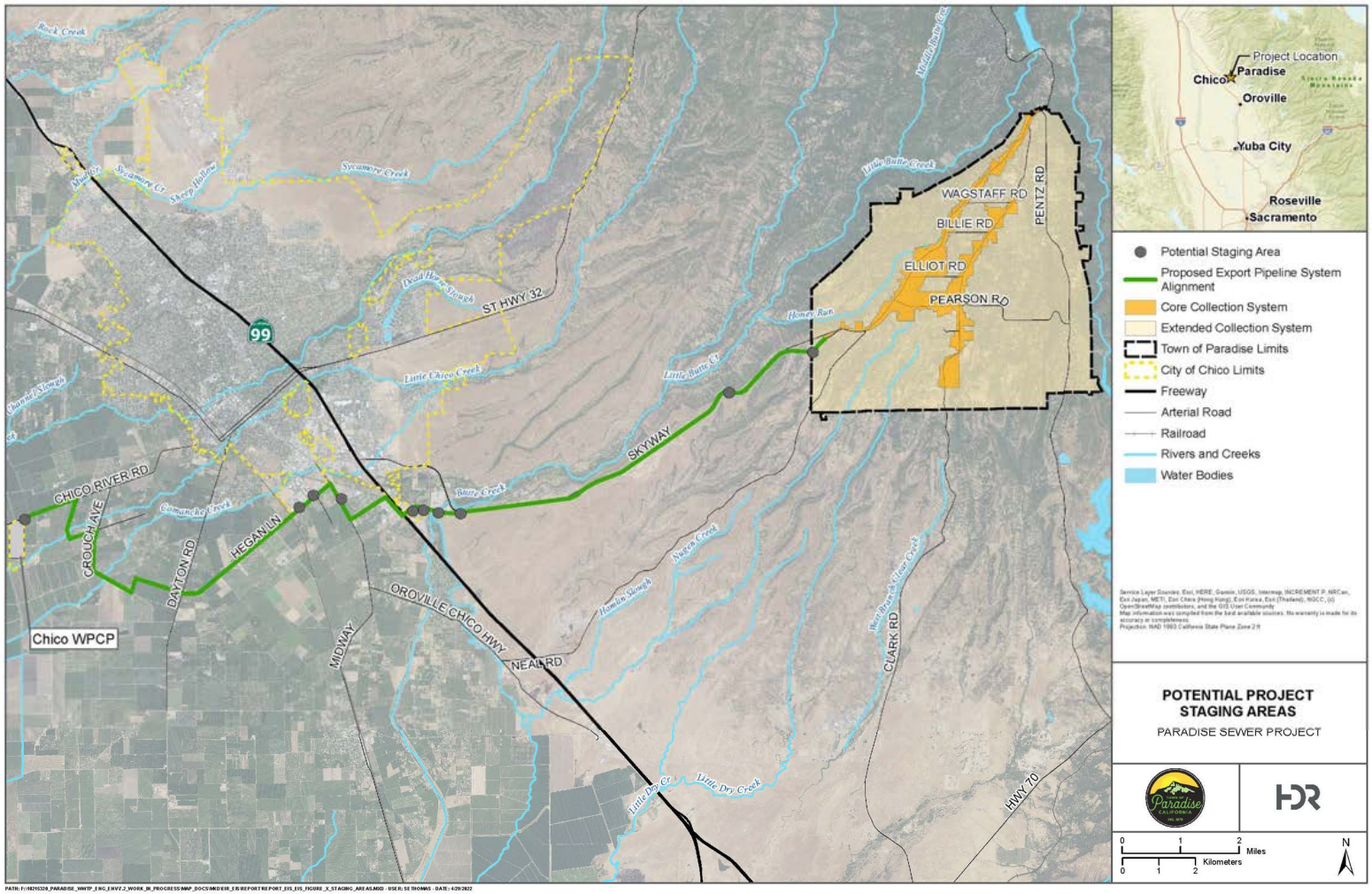

Figure ES-4. Potential Staging Areas

ES1.8 Proposed Operation and Maintenance

The Town would own, operate, and maintain the Core Collection System, Export Pipeline System and Extended Collection System. The Town may hire additional staff to handle these operation and maintenance activities. The wastewater operations team would include the following support positions, some of which may be provided by current Town staff: administrative and reception staff, accounting staff, three field crew/utility staff, and one on-site service technician. The existing Public Works director would serve in the management role over sewer functions.

The Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (Sanitary Sewer Systems General Order, or SSSGO) was adopted by the SWRCB in May 2006 to provide a consistent statewide approach for reducing sanitary sewer overflows (including leakages). The SSSGO applies to all publicly owned sanitary sewer collection systems in California with more than one mile of sewer pipe. Since the Town's collection system will have more than one mile of sewer pipe, and the Town will own and operate the collection system, the Town will comply with the SSSGO. The RWQCB will oversee the permitting of the Town's collection system under the SSSGO. Per the SSSGO, and subject to its terms, the Town will develop a sewer system management plan. The sewer system management plan will include policies, procedures and activities covering the planning, management, operation and maintenance of the collection system. As part of this sewer system management plan, the Town must also develop and implement an overflow emergency response plan to identify measures to protect public health and the environment. Pursuant to the SSSGO, the Town will be required to report sanitary system overflows to the RWQCB using an electronic reporting system. Review and approval by the City and County of the Town's proposed sewer system management plan would be required prior to start of operations.

In addition to the sewer system management plan and related requirements, and prior to the start of operations, the Town will adopt applicable ordinances and establish internal administrative procedures to permit and regulate future property owner connections to the Proposed Project .

ES1.9 Project Alternatives

The following four alternatives were selected for comparative analysis in this PEIR:

- **No Project Alternative**: The No Project Alternative is required by CEQA and consists of the circumstances under which the Proposed Project does not proceed.
- **Entler Avenue Hybrid Alternative**: Proposed Project with alternative pipeline alignment for crossing SR 99.
- **Crouch Avenue Alternative**: Proposed Project with alternative pipeline alignment for crossing Little Chico Creek.
- **Entler Avenue Hybrid and Crouch Avenue Alternative**: Proposed Project with alternative pipeline alignment for crossing SR 99 and alternative pipeline alignment for crossing Little Chico Creek.

The following sections describe each of the four alternatives.

ES1.9.1 No Project Alternative

Under the No Project Alternative, the Town would not construct a Core Collection System, an Export Pipeline System, or an Extended Collection System. The Town would continue to rely on private, individual septic systems for wastewater management.

ES1.9.2 Entler Avenue Hybrid Alternative

The Entler Avenue Hybrid Alternative would include the same Core Collection System within the Town and the same Export Pipeline System along Skyway but would provide an alternative route between Skyway and Entler Avenue (see Figure ES-5). This alternative would cross Butte Creek with trenchless HDD at the same location as the Proposed Project but would cross SR 99 north of the Proposed Project alignment, crossing the California Highway Patrol property and another private parcel. Similar to the Proposed Project, the Entler Avenue Hybrid Alternative would cross SR 99 with a trenchless crossing aligned with Norfield Avenue. The pipeline would then rejoin the Proposed Project alignment along Entler Avenue. The total length of this alternative segment is approximately 2,622 feet. All other components of the Proposed Project would remain the same as defined in Section ES1.5.

ES1.9.3 Crouch Avenue Alternative

The Crouch Avenue Alternative would include the same Core Collection System within the Town and the same Export Pipeline System along Skyway but would provide an alternative route for the pipeline to cross Little Chico Creek (see Figure ES-6). After the Proposed Project alignment would cross Comanche Creek and turn north along Crouch Avenue, the Crouch Avenue Alternative would continue along Crouch Avenue to Chico River Road, crossing Little Chico Creek along the way. Little Chico Creek would be crossed using trenchless technology via HDD methods. The Crouch Avenue Alternative would then turn west to rejoin the Proposed Project alignment as it travels west along Chico River Road to the Chico WPCP. The total length of this alternative segment is approximately 7,353 feet. All other components of the Proposed Project would remain the same as defined in Section ES1.5.

ES1.9.4 Entler Avenue Hybrid and Crouch Avenue Alternative

The Entler Avenue Hybrid and Crouch Avenue Alternative would include the same Core Collection System within the Town and the same Export Pipeline System along Skyway but would provide alternative routes for the pipeline to cross Highway SR 99 and Little Chico Creek. This alternative comprises a combination of the Entler Avenue Hybrid and Crouch Avenue alternatives discussed above. The total length of the combined alternative segments is approximately 9,975 feet. All other components of the Proposed Project would remain the same as defined in Section ES1.5.

ES1.10 Environmental Impacts from the Proposed Project

Table ES-2 summarizes direct and indirect impacts from construction and operation of the Proposed Project.

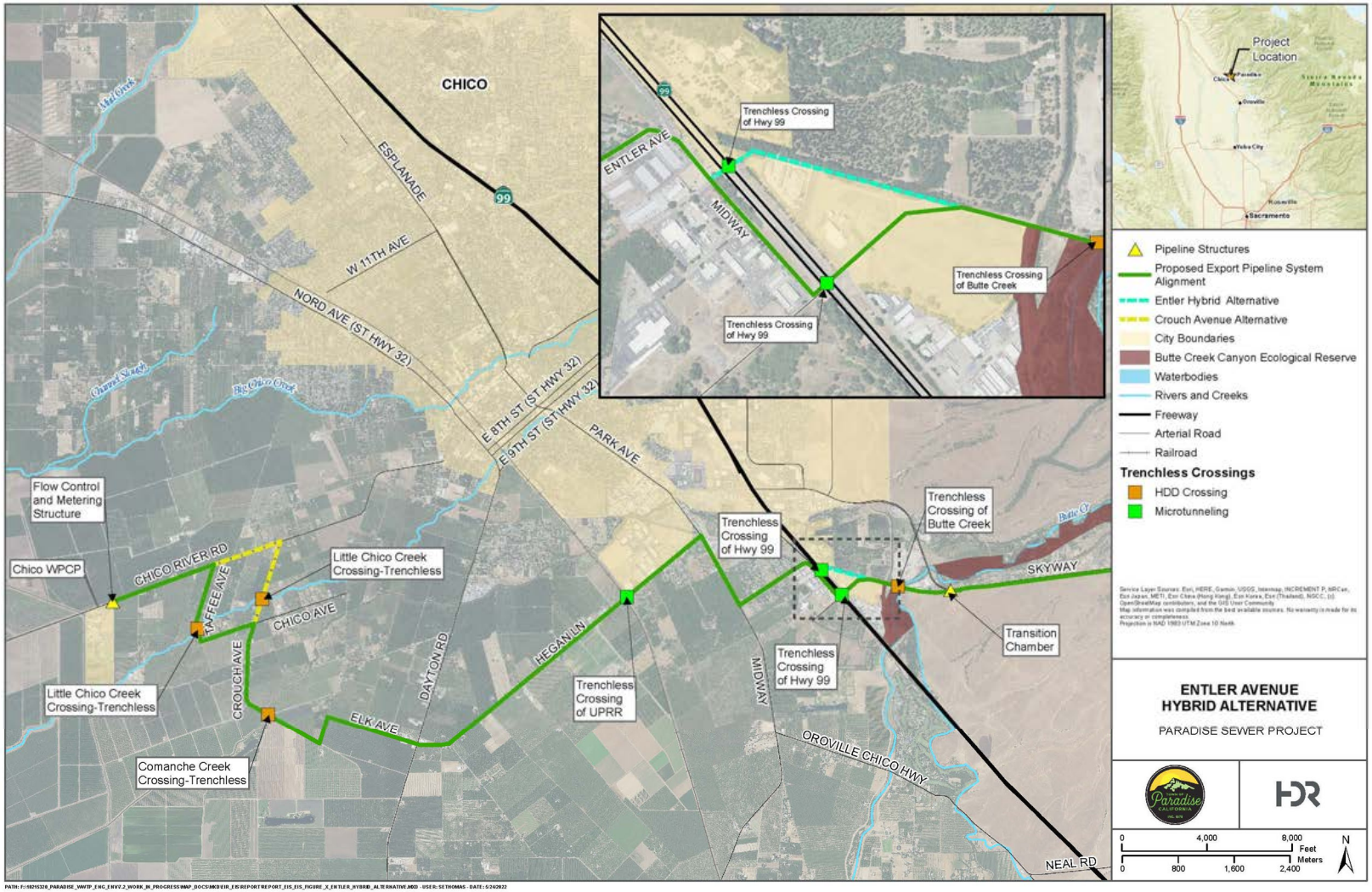

Figure ES-5. Entler Avenue Hybrid Alternative

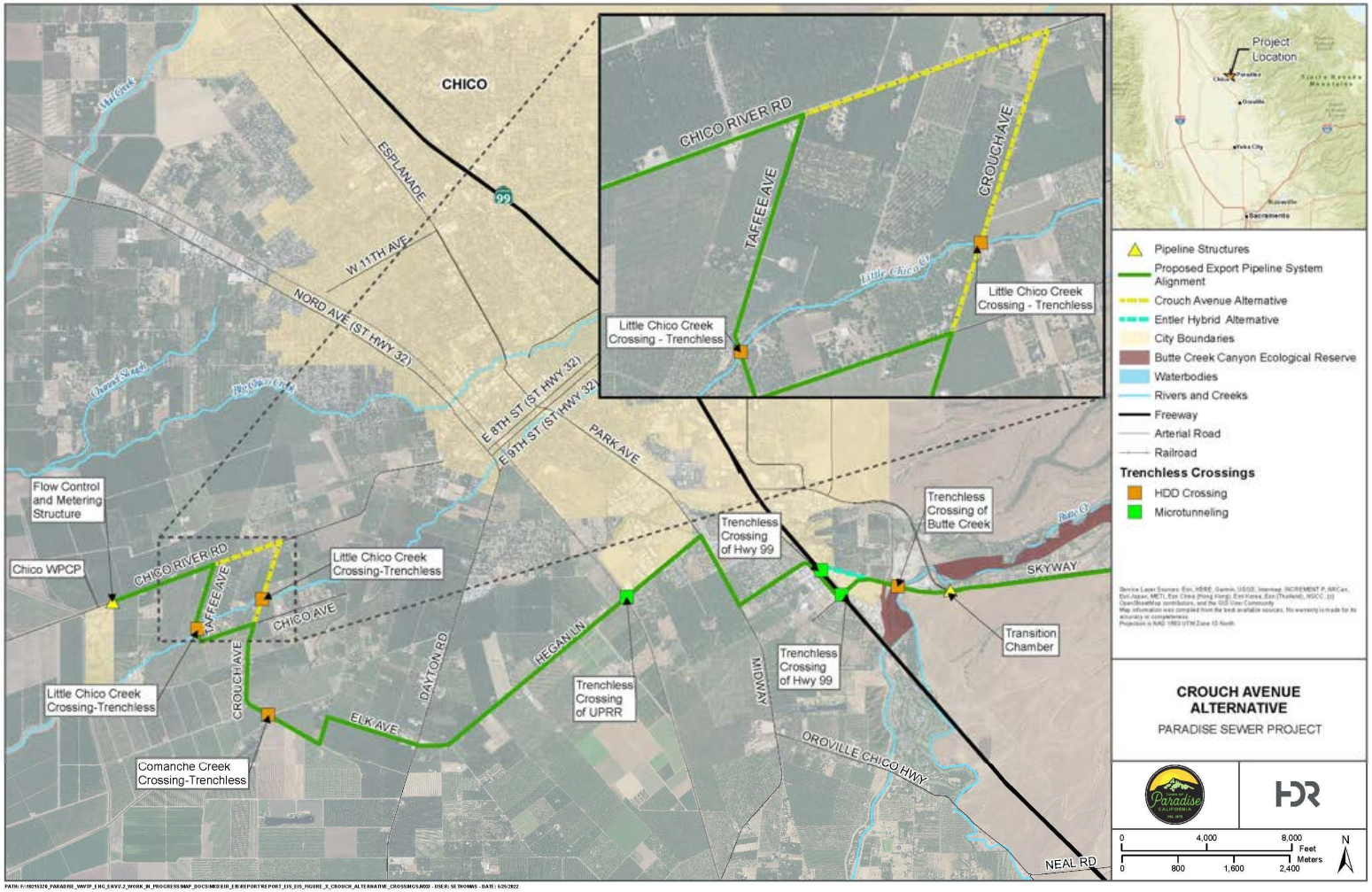

Figure ES-6. Crouch Avenue Alternative

Table ES-2. Summary of Proposed Project Impacts

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Agriculture and Forestry Resources			
Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use	No Impact	Not Applicable	No Impact
Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract	No Impact	Not Applicable	No Impact
Impact AG-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC § 12220(g)), timberland (as defined by PRC § 4526), or timberland zoned Timberland Production (as defined by California Government Code § 51104(g))	No Impact	Not Applicable	No Impact
Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use	No Impact	Not Applicable	No Impact
Impact AG-5: 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	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Air Quality			
Impact AIR-1: Conflict with or obstruct implementation of an applicable air quality plan	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact AIR-4: Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Biological Resources			
Impact BIO-1: 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 CDFW or USFWS: Special-Status Plant Species	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-2: Special-status Plant Surveys MM-BIO-3: Special-status Plant Avoidance MM-BIO-4: Biological Monitoring and Worker Environmental Awareness Training MM-BIO-5: Restoration of Temporarily Disturbed Areas	Less-Than-Significant Impact
Impact BIO-1: 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 CDFW or USFWS: Vernal Pool Crustaceans	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-6: No Net Loss of Aquatic Resources MM-BIO-7: Sensitive Community Fencing MM-BIO-8: Dry Work Areas	Less-Than-Significant Impact
Impact BIO-1: 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 CDFW or USFWS: Valley Elderberry Longhorn Beetle	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-9: Mapping of Elderberry Shrubs and Section 7 Consultation MM BIO-10: No Net Loss of Elderberry Shrubs MM-BIO-11: Elderberry Transplanting MM BIO-12: Avoidance Area MM-BIO-13: Chemical Use MM-BIO-14: Mowing	Less-Than-Significant Impact
Impact BIO-1: 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 CDFW or USFWS: Special-Status Fishes	Significant Impact	MM-BIO-15: Frac-Out Plan	Less-than-Significant Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact BIO-1: 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 CDFW or USFWS: Special-status Amphibians and Reptiles	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-6: No Net Loss of Aquatic Resources MM-BIO-7: Sensitive Community Fencing MM-BIO-8: Dry Work Areas MM-BIO-16: Western Pond Turtle Visual Encounter Surveys MM-BIO-17: Foothill Yellow-legged Frog Surveys MM-BIO-18: California Red-legged Frog Surveys. MM-BIO-19: Conduct Construction Activities during the Active Period for Giant Garter Snakes. MM-BIO-20: Minimize Potential Effects on Giant Garter Snake Habitat.	Less-Than-Significant Impact
Impact BIO-1: 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 CDFW or USFWS: MBTA and FGC-Protected Birds and Raptors	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-21: MBTA and FGC-Protected Bird and Raptor Surveys MM-BIO-22: Protocol Swainson's Hawk Surveys MM-BIO-23: Nest Avoidance	Less-Than-Significant Impact
Impact BIO-1: 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 CDFW or USFWS: Special-Status Bats	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-24: Bat Surveys	Less-Than-Significant Impact
Impact BIO-1: 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 CDFW or USFWS: American Badger	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-25: American Badger Detection Surveys	Less-Than-Significant Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-5: Restoration of Temporarily Disturbed Areas MM-BIO-6: No Net Loss of Aquatic Resources MM-BIO-7: Sensitive Community Fencing MM-BIO-8: Dry Work Areas	Less-Than-Significant Impact
Impact BIO-3: Have a substantial adverse effect on state or federally protected wetlands	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-5: Restoration of Temporarily Disturbed Areas MM-BIO-6: No Net Loss of Aquatic Resources MM-BIO-7: Sensitive Community Fencing MM-BIO-8: Dry Work Areas MM-BIO-26: State or Federally Protected Wetlands Mitigation	Less-Than-Significant Impact
Impact BIO-4: 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	No Impact	Not Applicable	No Impact
Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	No Impact	Not Applicable	No Impact
Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	No Impact	Not Applicable	No Impact
Cultural Resources			
Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5	Significant Impact	MM-CUL-1: Targeted archaeological monitoring MM-CUL-2: Follow inadvertent discovery procedures	Less-Than-Significant Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Energy			
Impact ENG-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction, operation, or maintenance	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact ENG-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency	No Impact	Not Applicable	No Impact
Geology, Soils, and Paleontological Resources			
Impact GEO-1(a): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault	No Impact	Not Applicable	No Impact
Impact GEO-1(b): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Strong seismic ground shaking	Significant Impact	MM-GEO-1: Minimize Geologic Hazards	Less-than-Significant Impact
Impact GEO-1(c): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Seismic-related ground failure, including liquefaction	Significant Impact	MM-GEO-1: Minimize Geologic Hazards	Less-than-Significant Impact
Impact GEO-1(d): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Landslides	Significant Impact	MM-GEO-1: Minimize Geologic Hazards	Less-than-Significant Impact
Impact GEO-2: Result in substantial soil erosion or the loss of topsoil	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact GEO-3: 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	Significant Impact	MM-GEO-1: Minimize Geologic Hazards	Less-than-Significant Impact
Impact GEO-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property	Significant Impact	MM-GEO-1: Minimize Geologic Hazards	Less-than-Significant Impact
Impact GEO-5: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater	No Impact	Not Applicable	No Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	Significant Impact	MM-GEO-2: Inadvertent Discovery Protocol	Less-Than-Significant Impact
Greenhouse Gas Emissions			
Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reduction the emissions of GHG	No Impact	Not Applicable	No Impact
Hazards and Hazardous Materials			
Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials	Significant Impact	MM-HAZ-1: Vehicle Equipment Access and Fueling	Less-than-Significant Impact
Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact HAZ-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment	Significant Impact	MM-HAZ-2: Cypress Lane Site Specific Contaminated Soil Management Plan	Less-than-Significant Impact
Impact HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area	No Impact	Not Applicable	No Impact
Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	Significant Impact	MM-HAZ-3: Road Closure Restrictions MM-HAZ-4: Rapid Demobilization Plan MM-HAZ-5 : Evacuation Warning Procedures MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	Significant Impact	MM-HAZ-1: Vehicle Equipment Access and Fueling MM-HAZ-7: Incorporate Fire Prevention Measures MM-HAZ-8: Incorporate Public Safety Measures MM-HAZ-9: Wildland Fire Area	Less-than-Significant Impact
Hydrology and Water Quality			
Impact HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	Significant Impact	MM-HAZ-1: Vehicle and Equipment Access and Fueling MM-HYD-1: Stormwater Management and Treatment Plan MM-HYD-2: Construction Best Management Practices MM-BIO-15: Frac-out Plan	Less-than-Significant Impact
Impact HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact HYD-3(a): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Result in substantial erosion or siltation on or off-site	Significant Impact	MM-HYD-1: Stormwater Management and Treatment Plan	Less-than-Significant
Impact HYD-3(b): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site	Significant Impact	MM-HYD-1: Stormwater Management and Treatment Plan MM-HYD-3: Flood Protection Plan	Less-than-Significant Impact
Impact HYD-3(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: Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff	Significant Impact	MM-HYD-1: Stormwater Management and Treatment Plan MM-HYD-3: Flood Protection Plan	Less-than-Significant Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact HYD-3(d): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Impede or redirect flood flows	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact HYD-4: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation	Significant Impact	MM-HYD-3: Flood Protection Plan	Less-than-Significant Impact
Impact HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	Significant Impact	MM-HYD-1: Stormwater Management and Treatment Plan	Less-than-Significant Impact
Land Use and Planning			
Impact LU-1: Physically divide an established community	No Impact	Not Applicable	No Impact
Impact LU-2: Cause any 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	No Impact	Not Applicable	No Impact
Noise and Groundborne Vibration			
Impact NSE-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies	Significant Impact	MM-NSE-1: Minimize Construction Noise	Less-Than-Significant Impact
Impact NSE-2: Generate excessive groundborne vibration or groundborne noise levels	Significant Impact	MM-NSE-1: Minimize Construction Noise	Less-Than-Significant Impact
Impact NSE-3: Be located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Population and Housing			
Impact POP-1: Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere	No Impact	Not Applicable	No Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Public Services			
Impact PS-1(a): Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: Fire Protection	Significant Impact	MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact
Impact PS-1(b): 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 following public services: Police Protection	Significant Impact	MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact
Impact PS-1(c): 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 following public services: Schools	Significant Impact	MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact
Impact PS-1(d): 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 following public services: Other Public Facilities	Significant Impact	MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact
Recreation			
Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Transportation			
Impact TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities	Significant Impact	MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact TRA-2: Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)	No Impact	Not Applicable	No Impact
Impact TRA-4: Result in inadequate emergency access	Significant Impact	MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact
Tribal Cultural Resources			
Impact TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC §21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: • Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC § 5020.1(k), or • A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC §5024.1. In applying the criteria set forth in subdivision (c) of PRC §5024.1, the lead agency will consider the significance of the resource to a California Native American tribe.	Significant Impact	MM-TCR-1: Coordination with Konkow Valley Band of Maidu and Mechoopda Indian Tribe MM-TCR-2: Tribal Cultural Monitoring	Less-than-Significant Impact
Utilities and Service systems			
Impact UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects	Significant Impact	MM-UTIL-1: Minimize Utility and Service System Disruptions	Less-Than-Significant Impact
Impact UTIL-2: Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years	No Impact	Not Applicable	No Impact
Impact UTIL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the Project, that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments	No Impact	Not Applicable	No Impact
Impact UTIL-4: 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	No Impact	Not Applicable	No Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact UTIL-5: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste	No Impact	Not Applicable	No Impact
Wildfire			
Impact FIRE-1: Substantially impair an adopted emergency response plan or emergency evacuation plan	Significant Impact	MM-HAZ-3: Road Closure Restrictions MM-HAZ-4: Rapid Demobilization Plan MM-HAZ-5: Evacuation Warning Procedures MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact
Impact FIRE-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire	Significant Impact	MM-HAZ-1: Vehicle and Equipment Access and Fueling MM-HAZ-7: Incorporate Fire Prevention Measures MM-HAZ-8: Incorporate Public Safety Measures MM-HAZ-9: Wildland Fire Area	Less-than-Significant Impact
Impact FIRE-3: 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	Significant Impact	MM-HAZ-1: Vehicle and Equipment Access and Fueling MM-HAZ-7: Incorporate Fire Prevention Measures MM-HAZ-8: Incorporate Public Safety Measures MM-HAZ-9: Wildland Fire Area	Less-than-Significant Impact
Impact FIRE-4: 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	Significant Impact	MM-HYD-1: Stormwater Management Plan MM-HYD-3: Flood Protection Plan MM-GEO-1: Minimize Geologic Hazards	Less-than-Significant Impact

ES1.11 Environmental Impacts from the Project Alternatives

Table ES-3 summarizes the impacts of the alternatives, as described in Section ES1.9, and compares it with the Proposed Project impacts.

Table ES-3. Comparison of Proposed Project Alternative Impacts

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Agriculture and Forestry Resources					
Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact AG-3: 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))	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact AG-5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Air Quality					
Impact AIR-1: Conflict with or obstruct implementation of an applicable air quality plan	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact AIR-2: 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	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact AIR-4: Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people	LTS	LTS (+)	LTS (=)	LTS (=)	LTS (=)
Biological Resources					
Impact BIO-1: 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 CDFW or USFWS	S/M	NI (-)	S/M (+)	S/M (=)	S/M (+)
Impact BIO-2: Substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS	S/M	NI (-)	S/M (+)	S/M (=)	S/M (+)
Impact BIO-3: Substantial adverse effect on state or federally protected wetlands	S/M	NI (-)	NI (-)	S/M (+)	S/M (+)
Impact BIO-4: 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	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	NI	NI (=)	NI (=)	NI (=)	NI (=)
Cultural Resources					
Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Energy					
Impact ENG-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact ENG-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency	NI	NI (=)	NI (=)	NI (=)	NI (=)
Geology, Soils, and Paleontological Resources					
Impact GEO-1(a): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact GEO-1(b): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Strong seismic ground shaking	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact GEO-1(c): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Seismic-related ground failure, including liquefaction	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact GEO-1(d): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Landslides	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact GEO-2: Result in substantial soil erosion or the loss of topsoil	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact GEO-3: 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	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact GEO-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact GEO-5: 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	NI	SU (+)	NI (=)	NI (=)	NI (=)
Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Greenhouse Gas Emissions					
Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reduction the emissions of GHG	NI	NI (=)	NI (=)	NI (=)	NI (=)
Hazards and Hazardous Materials					
Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HAZ-2: 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	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact HAZ-4: 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	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HAZ-5: 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	NI	NI (=)	NI (=)	NI (=)	NI (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Hydrology and Water Quality					
Impact HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	S/M	SU (+)	S/M (=)	S/M (=)	S/M (=)
Impact HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact HYD-3(a): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Result in substantial erosion or siltation on or off-site	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HYD-3(b): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HYD-3(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: Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact HYD-3(d): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Impede or redirect flood flows	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact HYD-4: In flood hazard, risk release of pollutants due to Project inundation	S/M	SU (+)	S/M (=)	S/M (=)	S/M (=)
Impact HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	S/M	SU (+)	S/M (=)	S/M (=)	S/M (=)
Land Use and Planning					
Impact LU-1: Physically divide an established community	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact LU-2: Cause any 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	NI	NI (=)	NI (=)	NI (=)	NI (=)
Noise and Groundborne Vibration					
Impact NSE-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies	S/M	NI (-)	S/M (=)	S/M (-)	S/M (=)
Impact NSE-2: Generate excessive groundborne vibration or groundborne noise levels	S/M	NI (-)	S/M (=)	S/M (-)	S/M (=)
Impact NSE-3: Be located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within two miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels	LTS	NI (-)	NI (-)	LTS (+)	LTS (+)
Population and Housing					
Impact POP-1: Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere	NI	NI (=)	NI (=)	NI (=)	NI (=)
Public Services					
Impact PS-1(a): Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: Fire Protection	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact PS-1(b): 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 following public services: Police Protection	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact PS-1(c): 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 following public services: Schools	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact PS-1(d): 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 following public services: Other Public Facilities	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Recreation					
Impact REC-1: 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	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Transportation					
Impact TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact TRA-2: Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact TRA-4: Result in inadequate emergency access	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Tribal Cultural Resources					
Impact TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: • Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or • A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Utilities and Service Systems					
Impact UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact UTIL-2: Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact UTIL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact UTIL-4: 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	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact UTIL-5: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste	NI	NI (=)	NI (=)	NI (=)	NI (=)
Wildfire					
Impact FIRE-1: Substantially impair an adopted emergency response plan or emergency evacuation plan	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact FIRE-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact FIRE-3: 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	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact FIRE-4: 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	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Note: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

ES1.12 Areas of Known Controversy

CEQA Guidelines Section 15123 states that an EIR must identify areas of known controversy that may have been raised by other agencies, the public, or other stakeholders. Areas of communicated controversy related to the Proposed Project or identified in the PEIR scoping process include, but are not limited to:

- Growth-inducing impacts, specifically in the City of Chico and rural Butte County outside Town and City limits.
- Reconsideration of local treatment plant construction instead of the proposed connection to the Chico WPCP, which was evaluated in 2017 and 2020.

ES1.13 Issues to be Resolved

CEQA Guidelines Section 15123 calls for the lead agency to include issues to be resolved in the EIR, including the choice among alternatives and whether or how to mitigate significant effects. Issues to be resolved related to the Proposed Project or PEIR include, but are not limited to, the following:

- Political details of connecting the export pipeline to the Chico WPCP. The Town and the City will enter into an inter-municipal agreement that will capture the mutually determined details of the connection. SRPAC (discussed previously in Section 1.3.2) has developed a principles of agreement document, which captures the overall approaches to various aspects of the connection and will be turned into the formal inter-municipal agreement, which is being completed in parallel with this CEQA process.
- Encroachment permits and applicable agreements from Butte County, as needed, for **field investigations and** installation of the pipeline system located within County rights-of-way.
- Applicable easements from private landowners.
- Establishing Town administrative procedures to permit future connections to the Proposed Project core collection system.
- Establishing Town administrative procedures to permit future connections to the Proposed Project extended collection system.
- Establishing sewer standards and regulations for the Town, including operations and maintenance for the core wastewater collection system and export pipeline Project components, as well as the extended collection system service area within Town limits being considered programmatically in this PEIR.

ES1.14 Significant and Unavoidable Impacts

CEQA Guidelines Section 15126.2(c) requires an EIR to discuss significant effects, including those that can be mitigated but not reduced to a level of insignificance. The CEQA Guidelines state that: “[w]here there are impacts that cannot be alleviated without imposing an alternative design, their implications, and reasons why the project is being proposed, notwithstanding their effect, should be described.”

Significant impacts would occur for the following resource topic areas: biological resources; cultural resources; geology, soils and paleontological resources; hazards and hazardous materials; hydrology and water quality; noise and groundborne vibration; public services; transportation; tribal cultural

resources; utilities and service systems; and wildfire. However, as shown in Table ES-2, all impacts could be mitigated to a less than significant level, and no significant and unavoidable impacts are anticipated.

ES1.15 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6 requires that an "environmentally superior" alternative be selected among the alternatives that are evaluated in the EIR. Generally, the environmentally superior alternative is the alternative that would be expected to generate the fewest adverse impacts. For the purpose of this analysis, the alternatives considered are:

- Proposed Project
- No Project
- Entler Avenue Hybrid Alternative – Proposed Project with alternative pipeline alignment for crossing SR 99
- Crouch Avenue Alternative – Proposed Project with alternative export pipeline alignment for crossing Little Chico Creek.
- Entler Avenue Hybrid and Crouch Avenue Alternative – Proposed Project with alternative pipeline alignment for crossing SR 99 and alternative pipeline alignment for crossing Little Chico Creek.

Based on the results of the alternatives analysis, the Crouch Avenue Alternative would be the environmentally superior alternative because fewer impacts would occur on air quality, noise and groundborne vibration, and biological resources (special-status species and sensitive communities) when compared to the Proposed Project and other action alternatives. However, as noted above, the Crouch Avenue Alternative would also result in a greater level of impacts on state or federally protected wetlands than the Proposed Project. Since impact findings for the Proposed Project and all action alternatives with mitigation incorporated show less than significant impacts or no impacts for all resource areas, selection of any of the three action alternatives would not significantly alter the potential for effects of implementing the Proposed Project.

1. Introduction

This Program Environmental Impact Report (PEIR) has been prepared in accordance with the California Environmental Quality Act (CEQA), which is found in the California Public Resources Code (PRC), Division 13; and with the CEQA Guidelines, which are found in the California Code of Regulations, Title 14, beginning with Section 15000. This PEIR has been prepared by the Town of Paradise, California (Town), which is the lead agency for the Paradise Sewer Project (Proposed Project). Per CEQA, the lead agency for a project is the public agency with primary responsibility for carrying out or approving the project as well as implementing CEQA requirements. This PEIR addresses the potential environmental effects of construction and operation of the Proposed Project, which is briefly described below and defined in detail in Chapter 2 of this PEIR.

1.1 CEQA Review and Decision-Making Process

1.1.1 Overview

As the public agency proposing to approve and implement the Proposed Project, the Town is the lead agency under CEQA. The City of Chico (City), Butte Local Agency Formation Commission (Butte LAFCo), Central Valley Regional Water Quality Control Board (RWQCB), Butte County (County), and California Department of Fish and Wildlife (CDFW) are considered Responsible Agencies under CEQA based on their discretionary approval over aspects of the Proposed Project and their utilization of this PEIR for their CEQA compliance. Specifically:

- **City of Chico:** Connection of the proposed wastewater collection and export pipeline components to the Chico Water Pollution Control Plant (Chico WPCP) will require a decision by the City.
- **Butte LAFCo:** State law requires that Butte LAFCo approve services provided outside a public agency's service area. Therefore, the Proposed Project will require the City and Town to approve an inter-municipal agreement to facilitate the extension of wastewater treatment services from the Chico WPCP to the Town. Butte LAFCo will then make its decision regarding whether to approve the service extension. Details on this extension are included in Chapter 2 of this PEIR.
- **RWQCB:** The RWQCB will rely on this CEQA analysis to make its decision regarding whether to issue a Clean Water Act Section 401 water quality certification for the three proposed water crossings if wetlands, waters of the US, or waters of the State are impacted by the Proposed Project.
- **Butte County**: The County will rely on this CEQA analysis to make its decision on project elements impacting County-owned and maintained rights of way (ROW), **including encroachment permits for field investigations and pipeline installation and operations**.
- **CDFW:** CDFW will rely on this CEQA analysis to make its decision regarding whether to issue a Fish and Game Code Section 1602 Lake and Streambed Alteration Agreement for the three proposed water crossings. If an incidental take permit is required for potential take of the state-listed Swainson's hawk, this CEQA process would also support that decision process.

According to CEQA Guidelines 15002, “the basic purposes of CEQA are to:

- Inform governmental decision makers and the public about the potential, significant environmental effects of proposed activities.
- Identify ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.”

As stated in the CEQA Guidelines Section 15121(a), “an EIR is an informational document which will inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize significant effects, and describe reasonable alternatives to the project.”

1.1.2 Scope of this Program Environmental Impact Report

This EIR functions as a PEIR but includes project-level analysis for those components where sufficient information is available to do so. The Proposed Project for this PEIR is the implementation of the Paradise Sewer Project, namely (1) the construction and operation of a new wastewater collection system for a core area within the Town limits and (2) the construction, operation, and maintenance of an export pipeline from the Town to the City WPCP (Figure 1-1). This PEIR presents a project-level analysis of these two components, detailed descriptions of which are provided in Chapter 2 *Project Description*. The scope of this PEIR does not include removal or remediation of the existing private septic systems.

The Proposed Project also includes a potential future component that is less defined but is connected in action to the Proposed Project: the construction, operation, and maintenance of an extended wastewater collection service area that would allow landowners with parcels within Town limits, but outside of the initial core collection area, to apply for connection to the proposed sewer system, up to the limits of the sewer system and Chico WPCP capacity. The overall purpose of the Proposed Project is not to serve the entire Town; areas will continue to exist that are served by the existing Onsite Wastewater Management Zone. Instead, the Extended Collection System will provide an opportunity for other property owners within Town limits to connect. The details of extending the sewer system to additional property owners, including the implementation process and final boundaries of service, are not currently defined; therefore, this component is considered at a programmatic level of review.

According to the CEQA Guidelines Section 15168(a), a lead agency should prepare a PEIR when it proposes: (1) a series of related actions that are linked geographically; (2) logical parts of a chain of contemplated events, rules, regulations, or plans that govern the conduct of a continuing program; or (3) individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects that can be mitigated in similar ways.

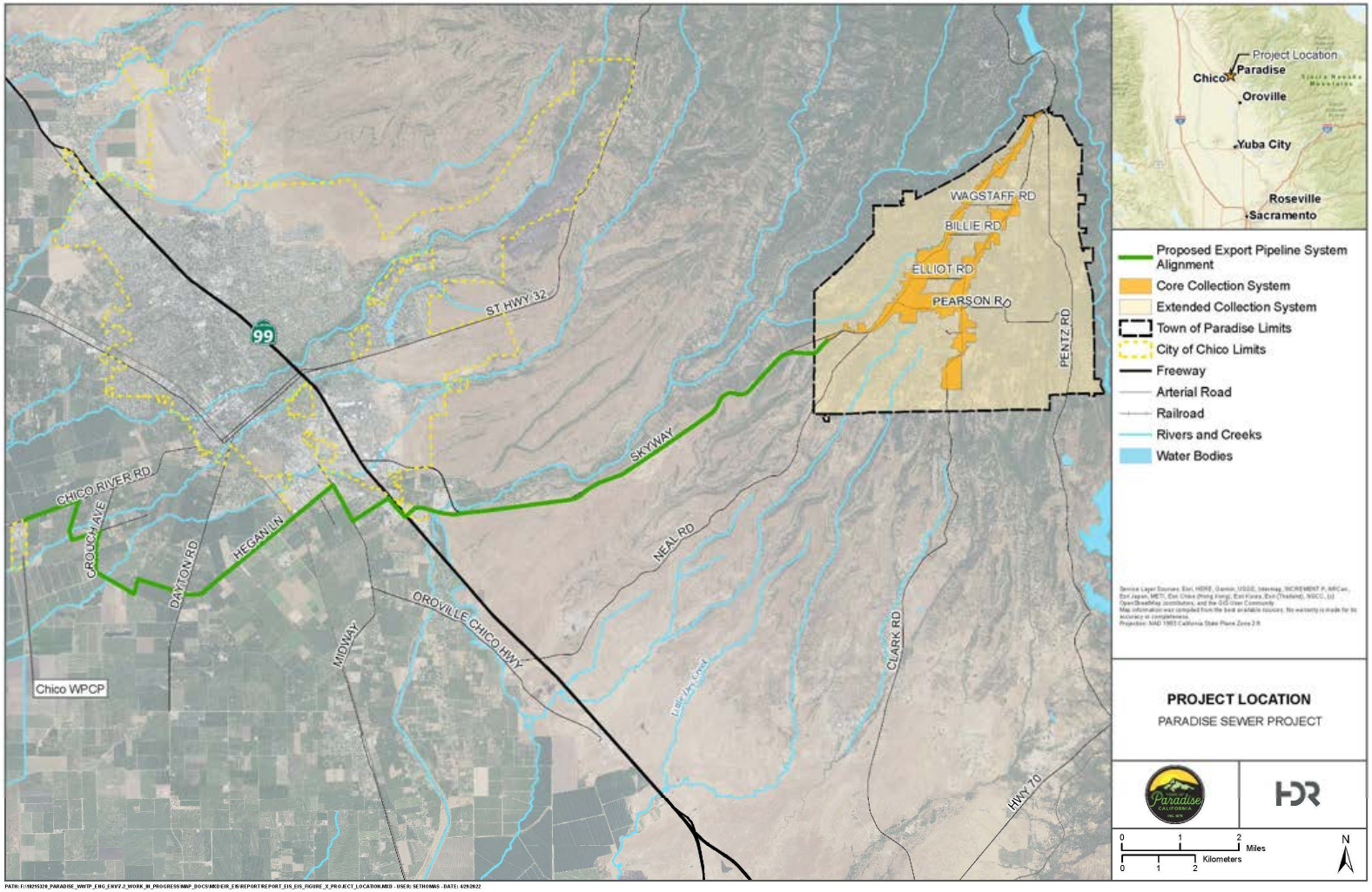

Figure 1-1. Project Location

A PEIR "may be prepared on a series of actions that can be characterized as one large project and are related ... in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program" (CEQA Guidelines Section 15168(a)(3)). Because the construction, operation, and maintenance of an extended wastewater collection system is connected and within the context, capacity, and framework of the overall project, the Town is including this action at a programmatic level of analysis in this PEIR to optimize the purpose and scope of this CEQA process as laid out in CEQA Guidelines Section 15168(b).

As such, this PEIR presents two different levels of analysis for different project components. It presents a detailed project-level analysis of the Proposed Project components that consist of the wastewater collection system in the core collection area and export pipeline because sufficient information is available about the characteristics, timing, and locations of these activities. It also presents a more general programmatic analysis of extending the wastewater collection service area beyond the core area to other landowners within Town limits, for which detailed information on the characteristics, timing, and/or locations was not available at the time of PEIR preparation.

1.2 Required Permits and Approvals

The required federal, State, and local permits and approvals to move the Proposed Project forward are listed in Table 1-1.

Table 1-1. Anticipated Required Permits and Approvals

Agency and Jurisdiction	Permit, Approval, or Clearance	Relevance
Federal		
US Army Corps of Engineers: Clean Water Act	Section 404 Permit	Permanent or temporary placement and/or removal of material in waters of the US or state, including wetlands
US Fish and Wildlife Service: Endangered Species Act	Section 7 Consultation, Letter of Concurrence	Presence of federally listed plant and wildlife species and critical habitat within the impact area if unable to avoid through siting of horizontal directional drilling or temporary disturbance areas
National Marine Fisheries Service: Endangered Species Act, Magnuson Stevens Essential Fish Habitat	Section 7 Consultation, No Effect Determination	Intent to pursue no effect determination through avoidance of federally listed anadromous fish and critical habitat within the impact area
State Historic Preservation Officer: Section 106 of the National Historic Preservation Act (NHPA)	Concurrence on adequacy of identification effort, National Register of Historic Places eligibility determinations, and Finding of Effect	Aligned with federal permits and consultations
Native American Tribes: • Konkow Valley Band of Maidu • Mechoopda Indian Tribe	Tribal consultation per Section 106 of the NHPA	Tribal consultation, aligned with Assembly Bill 52, Native Americans: California Environmental Quality Act (AB 52) consultation
State		
Native American Tribes: • Konkow Valley Band of Maidu • Mechoopda Indian Tribe	Tribal consultation per AB 52	Tribal consultation, aligned with the CEQA process

Agency and Jurisdiction	Permit, Approval, or Clearance	Relevance
State Water Resources Control Board	NPDES Construction Stormwater General Permit	Land disturbance exceeding thresholds
CDFW **(Responsible Agency)**	• Section 2081 Incidental Take Permit • Lake and Streambed Alteration Agreement Both applications require a completed CEQA clearance	• Presence of state-listed (threatened) Swainson's hawks nesting within the impact area • Three trenchless stream crossings could trigger the need for a Lake and Streambed Alteration Agreement due to risk of frac-out during construction.
California Department of Transportation	Section 660 of the California Streets and Highways Code	Specific to the trenchless crossing of Highway 99 by the export pipeline
Local		
Butte County **(Responsible Agency)**	Approval for installation and operations and maintenance of the export pipeline and any appurtenant facilities located within County rights of way**; specifically, for encroachment permits within County rights of way.**	Specific to the proposed export pipeline that would be constructed within Butte County ROW
Private Landowner	Permanent or temporary easements	Specific to the export pipeline installation on two private parcels in City limits when pipeline would leave Skyway and to connect portions of the sewer system to each other within the Core Collection Area
City of Chico **(Responsible Agency)**	Approval to connect the sewer system to the Chico WPCP	Specific to the export pipeline connection to the Chico WPCP
RWQCB **(Responsible Agency)**	• Water Quality Certification for dredge or fill impacts • Sanitary Sewer General Order permit	• Permanent or temporary placement and/or removal of material in waters of the US or state, including wetlands; three proposed trenchless crossing could trigger the need for a Water Quality Certification due to risk of frac-out during construction. • The Town will need coverage under the General Order as an owner/operator of a collection system that is longer than 1 mile
Butte LAFCo **(Responsible Agency)**	Approval to extend the Chico sewer service area	Extension of the Chico sewer service area to include Town
Other		
Union Pacific Railroad (UPRR)	Permit or Easement Agreement	Specific to the export pipeline use of an abandoned UPRR parcel when leave Skyway and trenchless export pipeline crossing of active UPRR track

1.3 Agency Coordination and the Public Involvement Process

1.3.1 Public Scoping

CEQA encourages an early consultation or scoping process to help identify the range of actions, alternatives, mitigation measures, and significant effects to be analyzed and considered in an EIR, and to help resolve the concerns of affected regulatory agencies, organizations, and the public. Scoping is

designed to explore issues for environmental evaluation, ensuring that important considerations are not overlooked and uncovering concerns that might otherwise go unrecognized.

Therefore, the first step in the EIR process is to solicit public input regarding the scope and content of environmental information to be included in the EIR. As the CEQA lead agency, the Town circulated a Notice of Preparation (NOP) from May 3 to June 3, 2021 (Appendix A NOP Scoping Report). The NOP notified the public that the PEIR was being prepared and provided information regarding the public comment period and how the public could provide comments on the scope of the PEIR, project location, project background, project description, and the probable environmental effects of the Proposed Project. The NOP was posted at the State Clearinghouse (SCH# 2021050008) and circulated to public agencies and other interested parties in compliance with CEQA Guidelines Section 15082(a). The NOP was also posted on the project website at www.paradisesewer.com. Due to restrictions under State of California Executive Order N-33-20, scoping for the Proposed Project occurred under Coronavirus Disease 2019 (COVID-19) restrictions; therefore, electronic postings, virtual meetings and physical mailings were the appropriate venues for information distribution.

The Town received comment letters from the following organizations in response to the NOP:

- Butte LAFCo, dated May 20, 2021
- CDFW, dated May 24, 2021
- Central Valley Flood Protection Board, dated May 28, 2021
- Native American Heritage Commission (NAHC), dated May 3, 2021
- Paradise Irrigation District, dated June 4, 2021
- Butte County Department of Development Services, dated May 27, 2021

The Town hosted two virtual public scoping meetings to seek public and stakeholder input on the environmental scope of the Proposed Project. The first virtual public meeting took place on May 13, 2021, and included 29 public attendees. The second virtual public meeting took place on May 25, 2021, and included 14 public attendees. Public meeting attendees were encouraged to ask questions and provide input on the Proposed Project and process. Nine comments were provided during the public meetings. Commonly asked questions were related to potential Proposed Project costs to property owners within the Town and if the Proposed Project would be able to handle future growth in the Town. Additionally, several commenters requested more information about current funding sources for the Proposed Project, the pipeline route, and recommendations for property owners considering constructing septic tank systems before Proposed Project construction. Comments were also received via email (1 comment) and on the project website (14 comments) during the public scoping period. Overall, 26 individual commenters submitted 68 comments during the public scoping period. After the scoping period, and as COVID-19 restrictions allowed, the Town continued to accept comments via in-person meetings and email.

Appendix A includes a scoping report that summarizes comments received in response to the NOP and at the public scoping meetings.

1.3.2 Sewer Regionalization Project Advisory Committee Coordination

As a means of advancing the concept of the Town discharging its wastewater to the Chico WPCP, the Paradise Town Council and Chico City Council formed a Sewer Regionalization Project Advisory Committee (SRPAC). The SRPAC consists of two Council members each from the City and Town (totaling four members). The role of the SRPAC has been to develop principles of agreement for the City to provide the Town with wastewater treatment services; this effort has been completed. These principles of agreement will now be used to create an inter-municipal agreement to be approved by both the Town and City Councils. The prerequisites for, and required contents of, an inter-municipal agreement for regulation of waste received from other jurisdictions are defined in the Chico, California Code of Ordinances, Code 15.40.285. The SRPAC will also monitor overall progress of the Proposed Project, including the PEIR process and associated public comment periods, and will provide updates and recommendations to the two councils. The RWQCB facilitates SRPAC activities and meetings, which are generally held bimonthly and publicly noticed.

1.3.3 Stakeholder Engagement

The Town met with Responsible Agencies, stakeholder agencies, stakeholders, and the public during the planning process to clarify concerns, identify opportunities, refine the Proposed Project definition, and otherwise optimize the planning process. Engagements included:

- The Town met with Butte LAFCo to discuss the proposed extension of the City's sewer service area and the approval process.
- The Town met with the RWQCB to discuss its interest in the Proposed Project, agreements with the City and funding opportunities. The Town otherwise participates regularly in the RWQCB's SRPAC meetings, as discussed in Section 1.3.2.
- The Town met with the City to discuss concurrent planning of the Chico WPCP improvements.
- The Town Public Works/Engineering Department, which is leading the Proposed Project, met with Susan Hartman of the Town's Planning Department to discuss the Town's existing Onsite Wastewater Management Zone district (which covers existing septic tank systems) and the status of *The Town of Paradise 1994 General Plan As Amended Through 2008* (*Town of Paradise General Plan* or *General Plan*; Town of Paradise and Quad Consultants 2008) update, including the Housing Element update in progress at that time.
- The Town met separately with County Supervisors Tod Kimmelshue, Bill Connelly, and Doug Teeter to introduce and provide clarity regarding Proposed Project components. Another meeting was held for the same purpose with County Supervisors Debra Lucero and Tami Ritter, as well as County staff members Paula Daneluk and Joshua Pack.
- The Town offered opportunities for community group presentations on its website. Rotary Club of Chico and the Chico Chamber of Commerce each requested presentations and were provided with project--specific presentations and facilitation for questions/answer sessions.
- Each month, the Town provided written progress updates and presentations as requested to Butte LAFCo, Butte County Board of Supervisors, and the Town Council for their regular agendas.
- The Proposed Project received formal letters of support from the following organizations/ agencies:

- 3Core
- Butte County Board of Supervisors
- Chico Chamber of Commerce
- League of California Cities Sacramento Valley Division
- North Valley Community Foundation
- Paradise Citizen's Alliance
- Paradise Chamber of Commerce
- Paradise Irrigation District
- Paradise Unified School District
- Rebuild Paradise Foundation
- Valley Contractor's Exchange

The Paradise Sewer Project website (www.paradisesewer.com) includes an open invitation for stakeholders and the public to engage on the Proposed Project. The Town met with various stakeholders to provide clarity, receive comments or concerns, or provide updates on the process.

1.3.4 Tribal Consultation

PRC 21080.3.1 and Assembly Bill 52, Native Americans: California Environmental Quality Act (AB 52) require formal consultation with California Native American tribes during the CEQA process for projects that have an NOP filed on or after July 1, 2015, because "California Native American tribes traditionally and culturally affiliated with a geographic area may have expertise concerning their tribal cultural resources" (PRC 21080.3.1[a]). "California Native American tribe" refers to a Native American tribe located in California that is on the contact list maintained by the California NAHC (PRC 21073). The purpose of tribal consultation is to determine, as part of the CEQA review process, whether tribal cultural resources (TCRs) are present within a project area, and if so, whether the project will significantly impact those resources. If TCRs may be significantly impacted, then consultation will also help determine the most appropriate way to avoid or mitigate those impacts.

To fulfill obligations pursuant to PRC 21080.3.1(b) and (c), on April 26, 2021, the Town requested assistance from the NAHC to identify California Native American tribes that are traditionally and culturally affiliated with the Proposed Project area. On April 27, 2021, the NAHC provided a list of California Native American tribes in support of these efforts. The Town sent notification letters via certified mail on May 10, 2021, to each of the contacts identified by NAHC, providing a brief description of the Proposed Project and an opportunity to request consultation.

Chairperson Jessica Lopez of the Konkow Valley Band of Maidu noted via a telephone call on May 14, 2021, the Tribe's desire to consult on the Proposed Project. Tribal Historic Preservation Officer (THPO) Kyle McHenry of the Mechoopda Indian Tribe confirmed via a telephone call and email on May 25, 2021, the Tribe's desire to consult on the Proposed Project. Chairperson Lopez and THPO McHenry agreed to a joint consultation meeting with the Town, and an initial consultation meeting was held virtually on August 10, 2021. The Town agreed to provide additional information so the Konkow Valley Band of Maidu and the Mechoopda Indian Tribe could review their respective internal databases and other information for potential TCRs within the Proposed Project area, and the Town provided the requested information via email on August 16, 2021. The Town and HDR Engineering, Inc. (HDR), the

Town's consultants, provided confidential meeting notes to all participants of this meeting, as well as materials requested for further review by the Tribes.

A subsequent joint consultation meeting was coordinated via email and phone calls, and a meeting was held virtually on September 9, 2021. Both Tribes indicated they had reviewed the materials provided by the Town. THPO McHenry identified a concern for potential Proposed Project-related impacts in sensitive areas and requested incorporation of measures for the Proposed Project to retain Tribal Cultural Monitors during construction activities in sensitive areas designated by the Tribes. Chairperson Lopez stated a concern for sensitive plant species that may be considered TCR and requested relevant biological assessment information for review to provide any necessary information related to TCR identification or impact avoidance. The Town agreed to provide the biological assessment information, as well as the draft TCR section language to both Tribes for review.

Additional phone calls and emails were exchanged, and as a result, updates were made to the cultural resources report to address concerns regarding the potential for rediscovery of cultural resources that had been previously recorded but not relocated during survey. Matthew Gramps-Williford, Vice Chair and Cultural Resources Director of the Konkow Valley Maidu Band, requested an in-person consultation meeting with the Town and HDR. The meeting was held on December 20, 2021, at the Town's offices. Chairperson Lopez concluded AB 52 consultation on January 13, 2022, and THPO Kyle McHenry concluded AB 52 consultation on January 14, 2022, with the understanding that communication between the Town and the Konkow Valley Band of Maidu and Mechoopda Indian Tribe will continue with regard to the commitments made in this PEIR, which include coordination with both Tribes for identifying sensitive areas and Tribal Cultural Monitoring during construction. As part of continued communication, the Town reached out to the Tribes on April 7, 2022, via email from HDR, to solicit input and hear concerns regarding potential impacts to TCRs caused by a change to the pipeline alignment for the Proposed Project.

1.3.5 Draft Environmental Impact Report

The Town has issued a Notice of Availability to provide agencies and the public with formal notification that the Draft PEIR is available for review and comment. Stakeholders and the public may request printed copies of the Draft PEIR and selected appendices at the following websites: Town of Paradise or Town of Paradise Sewer Project. Printed copies of the Draft PEIR and all appendices are available for review at the following locations:

- Town Clerk at Paradise Town Hall (5555 Skyway, Paradise, CA 95969)
- City Clerk at Chico (411 Main Street, Chico, CA 95928)
- Butte County Library, Chico Branch (1108 Sherman Ave, Chico, CA 95926)
- Butte County Library, Paradise Branch (5922 Clark Rd, Paradise, CA 95969)

The Town is circulating this Draft PEIR for a 45-day public review and comment period (July 14, 2022 to August 29, 2022) and will host three public meetings during this period; two meetings will be held in Paradise and one meeting will be held in Chico (dates and times of meetings will be posted at paradisesewer.com). The purpose of public circulation and the public meetings is to provide agencies and interested individuals with opportunities to comment on Draft PEIR contents.

Comments should be emailed or postmarked at the earliest possible date; written comments or questions concerning this Draft PEIR should be mailed or emailed during this review period and should be directed to the name and address listed below: comments should be e-mailed or postmarked at the earliest possible date, but no later than 45 calendar days from release of the Draft PEIR (August 29, 2022), to:

Marc Mattox, Director of Public Works
Town of Paradise
5555 Skyway
Paradise, CA 95969
530-872-6291 Ext. 125
mmattox@townofparadise.com

Written comments received on the Draft PEIR will be included and addressed in the Final PEIR.

1.3.6 Final Program Environmental Impact Report

The Town will be considering adoption of the Final PEIR at an open Town Council meeting to be held on November 7, 2022. The Final PEIR is hosted online at Town of Paradise or Town of Paradise Sewer. Printed copies of the Draft PEIR and all appendices are available for review at the following locations:

- Town Clerk at Paradise Town Hall (5555 Skyway, Paradise, CA 95969)
- City Clerk at Chico (411 Main Street, Chico, CA 95928)
- Butte County Library, Chico Branch (1108 Sherman Ave, Chico, CA 95926)
- Butte County Library, Paradise Branch (5922 Clark Rd, Paradise, CA 95969)

If adopted and certified at the Town Council meeting on November 7, a Notice of Determination will be filed with the County, City and Town clerks within five (5) working days after approval of the project. The Notice of Determination would be posted at the clerk offices for a period of 30 days (November 8, 2022 to December 8, 2022); a hardcopy of the full Final PEIR will be available at paradisesewer.com and at the locations noted above. “The filing of the Notice of Determination… and the filing and posting of the Notice of Determination for local agencies, start a 30-day statute of limitations on court challenges to the approval under CEQA” (CEQA Guidelines 15094 (g)).

1.4 Areas of Known Controversy

CEQA Guidelines Section 15123 states that an EIR must identify areas of known controversy that may have been raised by other agencies, the public, or other stakeholders. Areas of communicated controversy related to the Proposed Project or identified in the PEIR scoping process include, but are not limited to:

- Growth-inducing impacts, specifically in the City of Chico and rural Butte County outside Town and City limits.
- Reconsideration of local treatment plant construction instead of the proposed connection to the Chico WPCP, which was evaluated in 2017 and 2020.

1.5 Issues to be Resolved

CEQA Guidelines Section 15123 calls for the lead agency to include issues to be resolved in the EIR, including the choice among alternatives and whether or how to mitigate significant effects. Issues to be resolved related to the Proposed Project or PEIR include, but are not limited to, the following:

- Political details of connecting the export pipeline to the Chico WPCP. The Town and the City will enter into an inter-municipal agreement that will capture the mutually determined details of the connection. SRPAC (discussed previously in Section 1.3.2) has developed a principles of agreement document, which captures the overall approaches to various aspects of the connection. The principles of agreement will be turned into the formal inter-municipal agreement.
- Approval by Butte LAFCo for the service extension beyond the boundaries of Chico to allow the City to provide wastewater treatment services to the Town (Section 2.5 Project Components).
- Permits and applicable agreements from the County, as needed, for installation and maintenance of the pipeline system located within County rights of way (ROW).
- Applicable easements from private landowners.
- Establishing administrative procedures for public connection to the core wastewater collection system.

- Establishing administrative procedures for the Town to permit future connections to the Proposed Project extended collection system.
- Establishing sewer standards and regulations for the Town, including operations and maintenance for the core wastewater collection system and export pipeline Project components, as well as the extended service area within Town limits being considered programmatically in this PEIR.

1.6 Organization of the Program Environmental Impact Report

The content and format of this PEIR are designed to meet the requirements of CEQA and the CEQA Guidelines Sections 15122 through 15132. This PEIR is organized into the following chapters:

- **Executive Summary:** Presents an overview of the Proposed Project, summarizes the impacts of the Proposed Project and mitigation measures, summarizes the alternatives being considered, and discusses known areas of controversy and any issues to be resolved.
- **Chapter 1, Introduction:** Explains the CEQA process, describes the scope and purpose of this PEIR, explains the approach to both the project and programmatic levels of environmental analysis, provides information on the review and approval process, and outlines the organization of this PEIR.
- **Chapter 2, Project Description:** Provides information about the location, setting, and background of the Proposed Project; identifies project-specific objectives; and provides a detailed description of the Proposed Project components and its construction and operation.
- **Chapter 3, Environmental Impact Analysis:** Explains the general approach used in impact analysis and provides the environmental setting, impacts, and mitigation measures for the topics identified for detailed analysis in this PEIR. Section 3.1.5, Impacts Found to Be Not Significant, describes the topics that do not warrant further analysis. Subsequent sections pertain to the environmental resource topics for which a detailed analysis is provided, and each section presents information in three parts: environmental setting, method of analysis, and impact analysis. Materials cited in each resource area are listed following that specific section; a full list of references for all resources is also included in Chapter 7, References.
- **Chapter 4, Other CEQA Considerations:** Evaluates additional topics required to be included in an EIR, including irreversible impacts, significant and unavoidable impacts, growth-inducing impacts, and cumulative impacts.
- **Chapter 5, Alternatives:** Evaluates alternatives to the Proposed Project that would eliminate or substantially reduce significant impacts identified in this PEIR while reasonably attaining Proposed Project objectives. Alternatives that were reviewed but eliminated from further consideration in the PEIR are also discussed.
- **Chapter 6, List of Preparers:** Identifies individuals who were involved in preparing this PEIR.
- **Chapter 7, References:** Provides a comprehensive list of all reference materials cited in this PEIR.
- **Appendices:** Contains additional information used in preparing this EIR.
    - **Appendix A:** NOP Scoping Report
    - **Appendix B:** Town of Paradise 1994 General Plan Resolution and Amendments

- **Appendix C:** Regulatory Framework
- **Appendix D:** Emissions Modeling
- **Appendix E:** Vegetation Community Descriptions and Special-Status Species Accounts
  - **Attachment 1:** Aquatic Resources and Vegetation Communities Mapbook
  - **Attachment 2:** Database Queries
  - **Attachment 3:** Sensitive Biological Resources Table
- **Appendix F:** Swainson's Hawk Survey and Elderberry Shrub Mapping Report
- **Appendix G:** Tribal Consultation
- **Appendix H:** Pump Station Energy Consumption Calculation
- **Appendix I:** Public Comments and Responses on Draft PEIR

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2. Project Description

The Town is proposing to construct, operate, and maintain a new sewer collection system within the Town limits, with an export pipeline from the Town to the Chico WPCP. The Proposed Project would allow for the replacement of individual septic systems within the Town's sewer service area that are managed, owned, and maintained by individual property owners. This Proposed Project further includes the provision of wastewater treatment services from the City to the Town, to be approved by Butte LAFCo.

Specifically, the Proposed Project would consist of three primary components. The first two components (Figure ES-1) are analyzed at a project level because sufficient information is available regarding the characteristics, timing, and locations of these proposed facilities. The third component is analyzed at a programmatic level. The three components include the following and are detailed further in Section 2.5:

1. **Core Collection System:** The Core Collection System would consist of pipelines and 28 small pump stations (also referred to as lift stations) to serve approximately 1,500 individual parcels within the Town's core sewer service area. The Core Collection System would include construction of sewer mains (buried gravity and pressure lines), sewer laterals extending from sewer mains to individual properties, maintenance holes, and pump stations along the sewer mains. Most of the facilities would be located within the Town right-of-way (ROW), although limited temporary or permanent easements may be required from private landowners to install components of the Core Collection System, such as pipelines or pump stations. The parcels served would include Residential, Commercial, Industrial, Community Service, Public Institutional, and Recreational land use designations.
2. **Export Pipeline System:** The 18-mile Export Pipeline System is proposed to convey wastewater from the Core Collection System to the Chico WPCP. The Export Pipeline System would be comprised of the sewer pipeline, a transition chamber, a flow control and metering structure, a fiber-optic conduit that will run the length of the pipeline, and maintenance holes. There are no pump stations required along the Export Pipeline System. Most of the sewer pipeline would be installed by open-trench construction methods, with five trenchless (tunneled) crossings at locations described in Section 2.5.2. The Export Pipeline System would terminate with connection to the existing Chico WPCP.
3. **Extended Collection System:** The Extended Collection System would be an extension of the Core Collection System that would allow parcels within the Town limits to connect to the sewer system up to the capacity of the system infrastructure and the Town's allocation within the Chico WPCP capacity. The number of pump stations would be dependent on the locations of the sewer connections within the Town boundaries.

   The Extended Collection System is conceptual in definition; the characteristics, timing, and/or locations of the necessary buried gravity and pressure lines, maintenance holes, and pump stations are not available at the time of this PEIR preparation; therefore, the Extended Collection System build-out is analyzed at a programmatic level. Once the Extended Collection

System construction is defined, the Town would consider whether subsequent CEQA documentation is required.

Although not a physical change to the environment, and therefore, not assessed in this PEIR, the Proposed Project would require multiple agency agreements and approvals. The City and Town will enter into an inter-municipal agreement to define the contractual terms for the provision of wastewater treatment services from the Chico WPCP to the Town. The prerequisites for, and required contents of, an inter-municipal agreement for regulation of waste received from other jurisdictions are defined in the Chico, California Code of Ordinances, Code 15.40.285. Further, as discussed in Section 1.3.2, Sewer Regionalization Project Advisory Committee, the SRPAC has developed principles of agreement for the City to provide the Town with wastewater treatment services. These principles of agreement will now be used to create the inter-municipal agreement to be approved by both the Town and City Councils. In addition, the proposed Export Pipeline System will also require a formal agreement or other mechanism for the construction and maintenance of facilities within the Butte County-maintained rights-of-way.

Finally, Butte LAFCo must approve the extension of services beyond the boundaries of Chico to allow the City to provide wastewater treatment services to the Town. Government Code Section 56133(a) provides that “a city or district may provide new or extended services by contract or agreement outside its jurisdictional boundary only if it first requests and receives written approval from the commission of the county (LAFCo) in which the affected territory is located”. Provisions for extension of service requests are found in Government Code Section 56133 and in Section 4.5 of the LAFCo Policies and Procedures. Service extensions outside of an agency's Sphere of Influence may only be approved by a LAFCo to respond to “an existing or impending threat to the health or safety of the public or the residents of the affected territory” (Government Code Section 56133[c]). Should the sewer service extension be approved by Butte LAFCo for the proposed sewer service area within the Town’s boundary, any future adjustments to that boundary or additional sewer connections would require the consent of the City as the contracted provider and Butte LAFCo as the approving authority for the service extension request.

The project does not include removal of the existing septic systems which would be replaced by the Proposed Project sewer system.

2.1 Project Location

Paradise is within eastern Butte County, California, in the western foothills of the Sierra Nevada Mountains. Topography is characterized by intervening ridges and valleys sloping to the southwest, with elevations ranging from around 1,080 to 2,320 feet. The Town is bordered on the east by the western branch of the Feather River and on the west by Little Butte Creek. It is approximately 12 miles east of Chico, 20 miles northwest of Oroville, and 90 miles north of Sacramento. The Town is connected to Chico via Skyway, a Butte County roadway, and to Oroville via California State Route (SR) 191, which is known as Clark Road upon entering the Town from the south (Figure ES-1).

Chico, also in Butte County, sits on the Sacramento Valley floor, close to the foothills of the Sierra Nevada range to the east. Chico’s terrain is generally flat, with increasingly hilly terrain beginning at the

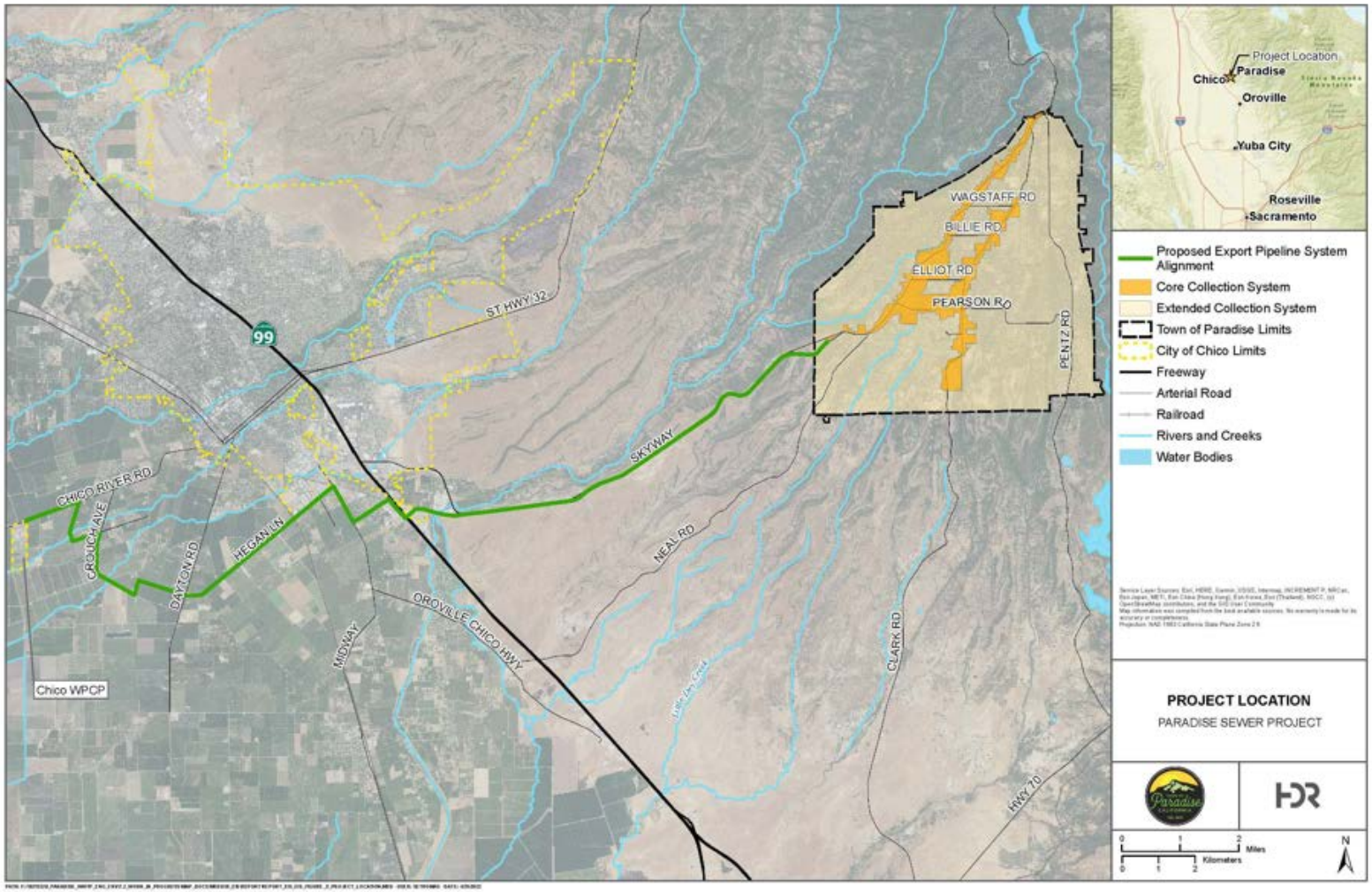

Figure 2-1. Proposed Project Location

eastern City limits. Chico is traversed by two creeks: Big Chico and Little Chico Creeks. These waterbodies discharge into the Sacramento River (Figure ES-1). SRs 32 and 99 comprise Chico's regional transportation network. SR 32 connects Chico residents to Glenn and Plumas Counties to the west and east, respectively. SR 99 connects residents to Tehama and Sutter Counties to the north and south, respectively. Chico is the most populous city in Butte County, with a population of 102,892 in January 2022 (California Department of Finance [DOF] 2022).

2.2 Project Background

Paradise's population peaked at 26,465 in 2000 (Biggest US Cities 2022) and it has long been considered a "bedroom" community (a residential suburb inhabited largely by people who commute to a nearby city for work) to Chico. For a number of years, the Town has pursued a municipal solution for wastewater treatment to address failed septic systems that have degraded local groundwater quality and constrained affordable housing, essential community services, and overall economic growth. Reliance on septic systems has resulted in two areas of concern: environmental impacts and economic impediment. Failed septic systems can release untreated wastewater into groundwater at the ground surface or cause pipe failures in buildings, resulting in environmental degradation and public health risk due to water contamination or exposure to untreated wastewater. Economically, the lack of a sewer system has suppressed the development of a sustainable business community by limiting the size and types of businesses that can affordably operate in the community. Development of affordable housing and workforce housing has also been hindered as larger housing facilities require more sewer treatment capacity than a traditional septic system can provide within the available parcel sizes. Considering these concerns, the Town worked diligently for more than 50 years, even prior to its incorporation in 1979, to identify a feasible wastewater treatment solution for the community, with a priority to provide service to those commercial and densely populated residential areas with failing septic systems.

2.2.1 Pre-Fire History

In 1983, James M. Montgomery, Consulting Engineers, conducted a Phase I wastewater management study for the Town to identify existing and potential water quality or public health problems associated with the continued use of individually managed on-site wastewater treatment systems (Montgomery 1983). Results of this study showed evidence of high levels of fecal coliform and septic system effluent in the water supply, resulting in degradation of water quality. Therefore, this study recommended that a sewer system or centralized wastewater management facility be considered for the Town (Montgomery 1983).

This Phase I report found that the most severe water quality degradation occurred in the Upper and Middle Honey Run and Lower Skyway basins underlying the Town, which encompass approximately 1,000 acres of dense commercial development (Montgomery 1983). The report recommended that centralized wastewater management facilities be considered for these areas. The principal objective of a subsequent supplementary Phase I report titled *Wastewater Management Study Supplementary Phase I Report* (Tchobanoglous 1984), was to further assess the need for centralized wastewater management facilities along the Skyway corridor, where there was evidence of localized deterioration of water quality. This report also recommended that as the Town continued to develop, centralized

facilities should be located along portions of the Central Skyway area, primarily due to the hydrogeological limitations of the area. The report concluded that the Town needed to develop a long-range plan for "providing centralized wastewater management in the central Skyway area, as future commercial development may not be possible without a wastewater treatment facility" (Tchobanoglous 1984).

In 1985, the *Wastewater Management Plan Phase II Report* evaluated alternatives and provided recommendations to manage wastewater disposal (R.A. Ryder & Associates 1985). While the first two Phase I reports focused primarily on Skyway, this report adds that Clark Road commercial and industrial areas would also need treatment in the future due to shallow soils and the increased capacity for density in the future (R.A. Ryder & Associates 1985).

Continued study of the feasibility of different types of treatment and collection were the subject of a later report (Kennedy/Jenks/Chilton 1989). The recommendation was to proceed with the formation of a Special Assessment District to fund the design and construction of a conventional gravity sewer system for Skyway and Clark commercial corridors within Paradise, with an aerated lagoon system and an advanced treatment system for further treatment prior to discharge (Kennedy/Jenks/Chilton 1989).

On October 25, 1990, via Town of Paradise Resolution No. 90-47, the Town Council officially formed a Wastewater Design Assessment District for the purpose of developing a wastewater collection, treatment, and disposal facility. The proposed sewer system was to serve only the core commercial area of the community. However, in 1992, plans to continue with the sewer system were stopped due to a proposed assessment and related political recall, coupled with the Town having a viable plan to self-govern and restrict septic systems on site (Town of Paradise 2012).

In a letter dated May 4, 1992, the RWQCB approved the Town's plans to establish an "Onsite Wastewater Management Zone" to address public health and environmental concerns noted in previous studies (RWQCB 1992). The purpose of the formation of this zone, which remains in existence today, was to identify, permit, inspect, monitor, and regulate repairs and new construction of on-site wastewater systems that are required for new development (Town of Paradise 2022a). At its inception, the maximum number of new equivalent units allowed in the zone was 3,040, with an approximate flow of 0.9 million gallons per day (mgd). This was in addition to the number of existing systems to be served by the zone at the time, which was approximately equal to 10,500, with an approximate flow equal to 1.5 mgd (RWQCB 1992). As of 2021, the zone currently permits and regulates more than 11,000 various wastewater systems. The collective individual septic systems vary in complexity, from standard septic tanks and absorption fields to small biological wastewater treatment systems (Town of Paradise 2022a). Because the core collection area includes only a small percentage of the 11,000 existing wastewater systems, and connection to the sewer system by other properties in Town, but outside of the core collection area, is only part of a proposed future program under consideration at this time, the wastewater management zone would remain in place for those parcels which would not or had not yet connected to the sewer system.

In 1994, the Town released the *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008). The version of the General Plan being used in this PEIR includes amendments through 2008, hence the 2008 publishing date. References to multi-family housing, particularly affordable housing and promoting economic development and development that would include public

services and infrastructure can be found in Chapter 4.0 (Quad Consultants 2008). The Town also confirmed “it is an objective of the General Plan to fully implement and sustain the operations of the town onsite wastewater management district” (Town of Paradise and Quad Consultants 2008). Amendments to the *Town of Paradise General Plan* since 1994 can be found in Appendix B Town of Paradise 1994 General Plan Resolution and Amendments and are assumed incorporated when referenced in this document.

After establishing a self-regulating wastewater management zone for the individual septic systems, the Town’s desire to provide a municipal sewer treatment infrastructure in the high-risk septic failure areas remained. In 2000, The Town published a *Downtown Revitalization Master Plan*, which identified inadequate septic systems and capacity deficiencies on many commercial properties as a key deterrent to increased business activity (Town of Paradise 2000). As a result, the Town issued a *Downtown Revitalization Area Clustered Wastewater Treatment System(s) Master Plan* (Town of Paradise 2004); however, it was not implemented due to a variety of factors, including funding and availability of suitable land for disposal sites. Another study, *Final Wastewater Treatment & Collection Feasibility Study for the Town of Paradise Downtown Community Cluster System*, was prepared (NorthStar Engineering 2010). This report analyzed the feasibility and cost associated with the construction of a community wastewater collection system designed to serve a defined area that would transport the wastewater to an off-site location. All the economic analyses conducted through 2010 had concurred that eliminating reliance on individual septic systems would allow businesses to develop and expand based upon the needs of the business and customer demand, instead of being subject to the strict limitations of on-site wastewater disposal.

On August 2, 2011, the Town Council considered and discussed a Council Agenda Summary prepared by key Town staff, providing an outline of three primary conceptual options for a community wastewater system for the Town’s downtown area and other Town commercial corridors. These three options included: (1) a Septic Tank Effluent Pump collection system with construction of a secondary treatment plant located within Town limits; (2) partnership with the owner of an 18-hole golf course located on lower Skyway, including wastewater re-use for the golf course irrigation and a potential future housing development project; and (3) an arrangement between the jurisdictions of the City and Town to allow the Town to tie into the City’s existing sewer collection system. At the conclusion of the Town Council meeting, the council directed staff to further research the advantages and disadvantages for Options 2 and 3 (partnership with golf course owner and arrangement with the City, respectively). Since 2011, Option 2 evolved into four separate local alternatives being assessed by the Town; results of these assessments are included in Section 5.2 of this document. Option 3 has advanced as the current Proposed Project.

Concurrent to and since the Town’s numerous wastewater management studies, public health, economic, and environmental impacts associated with septic system usage continue to persist.

One example of a system limitation is the long-standing challenges faced by restaurants forced to rely on temporary holding tanks. In a 2017 alternative analysis and feasibility study conducted for the Town, it was reported that “businesses without access (to a sewer system) must operate a holding tank to be pumped on a regular basis and hauled to a septage receiving facility. Commercial property owners that cannot afford these options will likely have businesses fail as they cannot be re-sold without a viable

Figure 2-2. Pine Grove Mobile Home Park Effluent

sewer system. This is the fate for many of the businesses in the main corridors of the Town as systems fail" (Bennett Engineering 2017). In some cases, restaurants have been forced to pump their tanks every week or two weeks, which is cost-prohibitive, partially due to the inability to expand their businesses due to small parcel restrictions. This contributed to some restaurant closings, such as at La Comida's Paradise location, which closed in September 2018 (Urseny 2018).

An example of a system failure would be the pervasive issues at a local mobile home park. In late 2000 and early 2001, Pine Grove Mobile Home Park began experiencing systemic failures associated with their on-site wastewater disposal system. These failures resulted in surfacing effluent and significant public health hazards. Historical documentation of this location indicates numerous warnings, citations, and corrective actions were required. The mobile home park was also a source for complaints of these hazards adjacent to a seasonal stream and children's park. In 2007, an alternative septic system was installed; however, issues with the site continued. In 2015, multiple complaints were received and subsequently observed by wastewater professionals. Inspections revealed the system was failing, causing wastewater overflows and backups through showers and toilets (Figure 2-2). On May 15, 2015, the Town received a Code Enforcement complaint from a public health nurse related to an entire family at the property experiencing symptoms of cryptosporidium contamination (fecal-oral parasites). The Pine Grove Mobile Home Park was entirely destroyed in the 2018 Camp Fire, making attempts at septic resolution infeasible.

As recently as 2017, the Town completed another feasibility study, which evaluated advancing a sustainable wastewater solution for the benefit of the Town's economy, environment, and community. The *Town of Paradise Sewer Project, Alternatives Analysis and Feasibility Report: Determining a Preferred Option for Implementation* (Bennett Engineering 2017) analyzed several options, including a "No Project" option, and identified the most feasible solution and next steps. Three local options and the Chico WPCP regional connection option were analyzed to address sewer service reliability problems and select the best alternative for the Town to carry forward to district formation, preliminary design, and environmental review. Some of the additional efforts included in this study that prior studies did not include were public outreach and engagement, and a socioeconomic study to assess both the beneficial economic aspects of building a major infrastructure project and the negative economic aspects of the "No Project" option. The socioeconomic study projected benefits to the Town and region, including an additional 161 jobs, additional $12.8 million in sales and output to the region in all sectors,

regional long-term impact of $68 million in private and public investment, and $56 million increase in the property tax base (Bennett Engineering 2017). The study also predicted a 5 to 13 percent property value increase for parcels within the sewer district. The regional connection to the Chico WPCP was recommended by the study as the best long-term solution for the Town (Bennett Engineering 2017).

2.2.2 Post-Fire History

On November 8, 2018, the Camp Fire severely impacted the Town. More than 26,000 Town residents were displaced; 90 percent of structures in the Town, including more than 11,000 homes and 1,000 businesses, were burned to the ground; and, most tragically, 85 people lost their lives.

Prior to the 2018 Camp Fire, the Town population was 26,423, making it the second most populated city in the County and the largest unsewered community in California (Butte County Association of Governments [BCAG] 2019a). Following the 2018 Camp Fire, population estimates dropped 83 percent to 4,474 in 2019 (DOF 2021a); in 2021, the recovering population had only grown to 6,046 residents (DOF 2021b). Although this demonstrated a 35 percent population increase over 2 years (2019 to 2021), it still reflected a 77 percent drop in population from pre-fire conditions. The 2018 Camp Fire affected the Town's business and management operations as resources were redirected toward recovery, which temporarily delayed further development of a municipal wastewater solution for the Town. Concurrently, private septic systems within the Town were found to be damaged by the fire, which in turn further degraded local groundwater quality and compounded the pre-fire sewer needs. These additional impacts from the Camp Fire again constrained affordable housing, essential community services, and overall economic growth, while the Town endeavored to rebuild without a municipal sewer system in place.

In response to the 2018 Camp Fire, the Town was gifted the funds for a contract through the North Valley Community Foundation and Butte Strong Fund to prepare a *Long-Term Community Recovery Plan* (LTCRP) (Town of Paradise 2019). LTCRP efforts represented one of the most comprehensive planning and response efforts in response to a community disaster, capturing the intensity and need of public participation and visioning for a path forward.

The community engagement process began with a meeting in February 2019. In total, seven listening sessions and community meetings were held to solicit feedback and input from residents regarding developing a community vision and setting Town goals for recovery. With feedback from these meetings and other documented engagement tools, the LTCRP was presented to the community and Town Council on June 25, 2019.

Throughout the process, it was apparent that while the Camp Fire had changed many of the Town's priorities and needs, the perceived and actual need for a centralized wastewater solution had not changed. The Paradise Sewer Project is identified as a "Tier 1 Recovery Priority Project" in the LTCRP, which included those plans that were considered "catalyst projects that serve as important interventions for the long-term recovery from the physical damage of the disaster" (Town of Paradise 2019). The LTCRP states "A sewer system should be installed in commercial areas to incentivize economic growth and reduce environmental impacts. It could allow for clustered uses, such as restaurants and apartments, that are currently not feasible" (Town of Paradise 2019).

Starting in late 2019 and through 2020, the Town re-evaluated the most recent *Town of Paradise Sewer Project, Alternatives Analysis and Feasibility Report: Determining a Preferred Option for Implementation* (Bennett Engineering 2017) to explore a wastewater collection system in light of the additional impacts resulting from the 2018 Camp Fire. New considerations included a more expansive need for septic system replacements, incorporation of and consistency with the LTCRP findings and recommendations, including how repopulation within the sewer service area would proceed and how to address those ongoing sewer impacts that had continued to exacerbate since the 2017 study.

The Town continued to study wastewater discharge and treatment alternatives, including local treatment and disposal, as well as a regional treatment alternative at the Chico WPCP. In 2020, the Town received an *Evaluation of Wastewater Treatment Plant Options, Town of Paradise, Butte* County memorandum from the RWQCB (2020). In the memorandum, the RWQCB recognized that the Town was considering both a local treatment and disposal option as well as the option to connect to the Chico WPCP; documentation of a qualitative evaluation and comparison of the two options by the RWQCB was included in the memorandum (RWQCB 2020). A summary of the findings states "… it is the opinion of the Board's technical staff that the regionalization option presents an objectively more sustainable long-term solution to the Town's wastewater infrastructure needs. Due to the apparent overwhelming advantages of the regionalization option, it is the Board's strong recommendation for the Town to conserve limited financial resources and focus its feasibility analysis on the regionalization option" (RWQCB 2020).

Following a detailed analysis of alternatives, and in coordination with the City and RWQCB, the environmental impacts, costs, and operations of the alternatives were considered. In partnership with the RWQCB and City, the regional approach to providing sewer service to the Town, by connecting to the existing Chico WPCP, was pursued over alternative options to build a new stand-alone treatment facility for the Town. Section 5.2 describes the reasoning for rejecting as infeasible the local alternatives as part of this environmental review process.

During these studies, it was also determined that the estimated average wastewater conveyance and treatment need for the sewer service area would be 464,000 gallons per day (0.464 mgd). This would accommodate current repopulation and possible future growth, consistent with the current *Town of Paradise General Plan* and *Town of Paradise 2022–2030 Housing Element Update* (Town of Paradise and Quad Consultants 2008; Town of Paradise 2022a). The Town is preparing this PEIR to determine feasibility of a regional wastewater treatment solution to fulfill this 0.464 mgd wastewater treatment need.

2.3 Project Need and Objectives

2.3.1 Project Need

Based on the number of developed and developable parcels, Paradise is the largest town in California that relies solely on septic systems for the treatment and disposal of its wastewater (BCAG 2019a). Relying on private septic systems due to the lack of a municipal sewer collection system has a twofold implication: (1) the effect on the human and natural environment, and (2) the effect on the area's economy and recovery from the 2018 Camp Fire. The Camp Fire, which occurred in the Town and

some surrounding areas in the County, was one of the most destructive wildfires in California history. The Camp Fire resulted in the loss of 85 lives, nearly 19,000 structures, the more than 150,000 acres over a period of 2 weeks as well as $9 billion in insurance claims (Town of Paradise 2022a).

The lack of reliable sewer infrastructure, due to the probability of failure and limitations on treatment and discharge within the current septic network, poses an environmental threat to groundwater and surface water quality, and has been shown to have a recurring impact within the Town's sewer service area. The Proposed Project's Core Collection System area is consistent with the Town's sewer service area, as defined in the *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008). When a septic system fails, it would either contaminate the groundwater underneath it or surface water nearby, creating environmental concerns for nearby streams and lakes as well as polluting the drinking water supply. In extreme cases, a failing septic system may leak improperly treated sewage into the environment, leading to the spread of diseases such as hepatitis and dysentery. In other cases, improperly treated septic system effluent may percolate into underlying groundwater, feeding an excessive amount of nitrates into the water supply. Research on septic system failure is limited, but some research indicates that septic systems should be studied more carefully. "In 2013, the Centers for Disease Control and Prevention (CDC) looked at nearly four decades of data on disease outbreaks linked to drinking untreated groundwater. The data was drawn from 248 outbreaks that were reported to the CDC between 1971 and 2008. Of the 172 cases in which a source of contamination was determined, 67 percent were linked to a septic tank or an improperly designed well" (Circle of Blue 2015).

Prior to the 2018 Camp Fire, the Town struggled to support a thriving economy, in part due to the lack of sewer availability. Currently, for any property in the Town, the degree and intensity of use of a parcel is limited to the capacity to safely dispose of wastewater on site. Commercial parcels in Town are generally smaller in size and concentrated in a core commercial area that provides limited space for septic tanks and leach fields. These restrictions are compounded by siting restrictions such as high groundwater and poor drainage due to the local soil composition. As a result, existing Town businesses were severely constrained due to their septic system discharge exceeding the available capacity of the land itself, while new businesses were often forced to open elsewhere due to the limitations placed on them to operate with an on-site septic system. Higher water usage businesses like restaurants, bakeries, coffee shops, and nail and hair salons are particularly affected, resulting in very limited local businesses in these categories.

Following the impact of what is reported to be the "globe's costliest natural disaster in 2018" (Associated Press 2019), conditions since the 2018 Camp Fire are amplified with even fewer businesses able to open or reopen due to septic failures or required upgrades that are cost prohibitive.

As Paradise residents continue to seek goods and services elsewhere, they take their tax dollars with them. This has resulted in approximately 73 percent retail leakage in food and beverage establishments according to the *Camp Fire Regional Economic Impact Analysis Final Report* (Economic & Planning Systems and Industrial Economics 2021). Even lower water-usage business categories such as home furnishings and appliance, clothing, and general merchandise stores suffered 61 percent, 98 percent, and 71 percent retail leakage, respectively.

2.3.2 Project Objectives and Goals

The intent of the Proposed Project is to provide a municipal wastewater management solution that would reduce public health and environmental concerns caused by failed or failing septic systems, and support economic recovery and sustainability following the 2018 Camp Fire.

Three primary objectives and associated goals piloted the development of the Proposed Project:

- Provide long-term, efficient, reliable treatment of wastewater in a cost-effective, environmentally beneficial manner to current and returning Town residents, in a manner acceptable to the RWQCB and other permitting agencies:
    - Accommodate regrowth while reducing further environmental degradation of groundwater and surface water from failing septic systems
    - Reduce the public health risk associated with failing septic systems
- Generate economic recovery by eliminating septic-related capacity limitations, as well as the general burden of on-site wastewater management for businesses:
    - Promote the return or arrival of essential community services and businesses by removing restrictions caused by on-site septic systems
- Provide for the ability to construct and maintain affordable housing, specifically multi-family housing:
    - Support centralizing affordable housing to Paradise's urban core, along major evacuation routes

The first primary objective of the Proposed Project is to provide a cost-effective, long-term sewage management solution that supports local and regional water quality preservation as well as reduces risk to public health. From a health and safety standpoint, failed or failing septic systems create a public health risk due to the potential for direct or indirect public contact with wastewater. The California State Water Resources Control Board's (SWRCB) *2010 Update to Strategic Plan 2008-2012* (SWRCB 2010), demonstrates its focus on improving water quality in the state with two goals: one targets protection of groundwater in high-use basins; and the second focuses on comprehensively addressing the relationship between water supply, water quality, and climate change (SWRCB 2010, Goals 2 and 4). The document also describes SWRCB's Strategic Priority Actions, and in a discussion on wastewater infrastructure and sustainability, states:

> *The need for updated and new infrastructure is particularly critical for small communities with very limited resources. The State Water Board will emphasize a renewed focus on small community wastewater projects and make it a priority to help ensure that small and/or disadvantaged communities have the resources needed to protect water quality and public health related to wastewater (SWRCB 2010).*

The Town's current practice of collecting wastewater and processing it through individual septic tanks and soil absorption disposal systems (referred to as leach fields) in a geologically constrained foothill

community has a direct impact on both water quality and water supply when systems fail. As a result, the Town has been coordinating with the City and the RWQCB to respond to the existing threat to the health and safety of the public, specifically Town residents. The Proposed Project and alternatives were developed, in part, as a result of this coordination. Removing the need for septic systems in areas where septic systems have failed, or are projected to fail, would directly respond to the goals and priorities identified in SWRCB's Strategic Plan. According to the *Town of Paradise Sewer Project Alternatives Analysis and Feasibility Report*, even before the Camp Fire occurred, "on Skyway alone, 122 septic systems had failed in the last years or are predicted to fail in the next 10 years (Bennett Engineering 2017).

The second objective of the Proposed Project is to enable the recovery and sustainability of the Town's economy, thus providing essential community services. The lack of a reliable wastewater solution was a limiting factor to projected Town growth prior to the 2018 Camp Fire and remains a major barrier to existing and new commercial business in the Town. Fewer businesses in the Town also means fewer in-Town jobs, particularly in the retail and service industries. These types of jobs and the businesses that provide them are critical in a "bedroom community"-like Paradise to support the returning population and keep the local economy sustainable.

Multi-family housing recovery and development within the Town is the third objective of the Proposed Project. The reliance on private septic systems has always hindered the development of multi-family housing in the Town, as larger housing developments require wastewater infrastructure that exceeds the capacity of a traditional onsite septic system. Those housing developments that were able to navigate this barrier did so at great expense, with the cost of necessary wastewater treatment serving as a barrier to most multifamily projects. This has reduced the number of affordable housing units in Town and has contributed to an ongoing housing shortage in the Town and County. Per the *Camp Fire Regional Economic Impact Analysis Final Report* (Economic & Planning Systems and Industrial Economics 2021), "The Town lost almost 90 percent of its supply of single family detached homes, over 70 percent of its supply of single-family attached and other multifamily residential units, and all 2,100 mobile home units." Some reconstruction did occur in 2019, including 648 temporary residential units (Fehr and Peers 2021). Before the 2018 Camp Fire, Paradise provided housing for a workforce whose work was distributed throughout the County. BCAG states that in 2018, the County had a job to housing unit ratio of 0.83, while in 2020 the ratio jumped to 0.96 as a result of the housing loss associated with the Camp Fire (BCAG 2019b). After the 2018 Camp Fire, property owners who would otherwise build or re-build multi-family developments have been unable to do so partially due to the constraints of on-site septic system capacity. This loss of affordable housing development has caused a workforce shortage in surrounding communities due to the lack of available housing. A regional economic impact analysis of the 2018 Camp Fire found that "the ability of the Region to replace workers and re-balance income distribution hinges on its ability to plan for and successfully construct an adequate supply of new, affordable housing, particularly in Butte County" (Economic & Planning Systems and Industrial Economics 2021).

Additionally, as a recipient of a Home Investment Partnerships Program grant from the California Department of Housing and Community Development, the Town is required to offer a certain number of low-income housing units. The Town is currently unable to meet that requirement because of the existing septic system constraints, which are unable to support housing development densification.

Development of low-income, multi-family housing made possible by a sewer system could help the Town comply with these regulations, while also addressing the County's workforce shortage and providing affordable housing to the community.

2.4 Existing Wastewater Treatment Facilities

2.4.1 Town of Paradise

Currently, the Town has nearly 11,500 parcels (California State University Chico 2020). All of those parcels rely on private wastewater treatment facilities, which primarily consist of individual, privately owned septic tanks and leach fields. Larger private septic tank systems serving commercial, institutional, and multi-family properties are also used. Each property owner contracts with a private septage hauling company to periodically pump out their septic tanks and haul the septage away. A representative individual conventional septic system, typical of those which serve a majority of the Town, is shown in Figure 2-3.

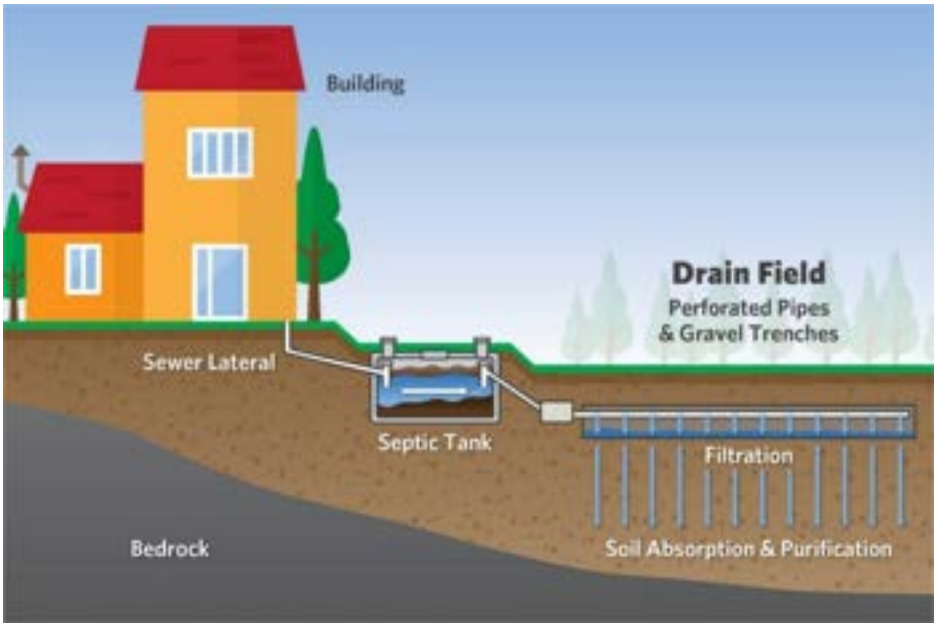

Figure 2-3. Individual Conventional Septic System

Residential septic tanks typically hold 1,000 to 1,500 gallons of septage and are pumped out every 5 to 10 years. Industrial or high flow commercial facilities are larger, include holding tanks, and are pumped several times per year. In a properly sized, installed, and well-maintained septic tank with ideal soil and groundwater conditions, solids, including microorganisms and nutrients, remain in the septic tank, and liquid (effluent) discharges to the soil through the leach field (drain field). Effluent from the septic tank enters the leach field within the soil layer through discharge pipes and gravel, where physical, chemical, and biological processes within the soil provide further treatment and disposal of the wastewater. However, septic tank effluent still contains large quantities of pathogenic microorganisms and nutrients when discharged into the soil, which are problematic in poor soil conditions, high groundwater, or compromised systems. Failed leach field filtration systems represent a portion of the known septic

system failures and associated soil degradation; present the largest concern for individual septic systems; and can often contribute to additional failures, including effluent discharge at the ground surface.

Septage from the Town currently is hauled by truck to one of the following locations:

- A receiving station at the Neal Road Recycling and Waste Facility, a landfill just south of the Town (approximately 2 miles southeast of the Proposed Project); from there, a single company (Thrifty Rooter) hauls the septage to Thrifty Rooter's septage treatment facility near Lincoln, California (approximately 71 miles south of the Proposed Project); and
- NorCal Environmental Solutions, a facility in Orland, California, 35 miles west of the Town.

2.4.2 Chico Water Pollution Control Plant

The Chico WPCP is located approximately 5 miles southwest of the City on 120 acres of land. The City owns and operates the property and the Chico WPCP. The Chico WPCP sewer service area is composed of the incorporated area of Chico and some parcels within unincorporated Butte County, adjacent to the City limits. The Proposed Project does not include changes to the current Chico WPCP sewer service area or the availability of sewer service to residents of the City, other than the addition of the Town's sewer service discussed below.

The Chico WPCP is a 12 mgd capacity, secondary treatment, activated sludge, wastewater plant with future expandability of up to 15 mgd (City of Chico 2021a). The Chico WPCP treats incoming wastewater through screening (large solids removal), grit removal, primary clarification, activated sludge treatment with secondary clarification, and chlorination/dechlorination. The sludge (biosolids) portion of the wastewater is treated by anaerobic digestion, followed by mechanical dewatering. The resulting biosolids are then hauled directly from the Chico WPCP for land application in unincorporated Sacramento County, California. The treated wastewater from the Chico WPCP is discharged to the Sacramento River through a submerged outfall diffuser and is regulated in accordance with National Pollutant Discharge Elimination System (NPDES) Permit No. CA0079081 (Order No. R5-2016-0023). The annual average flow coming into the Chico WPCP is 6.3 mgd (Chico WPCP monitoring data, RWQCB 2021). The Proposed Project would add an additional 0.109 mgd of wastewater from the Town to the Chico WPCP influent at the time of initial connection (estimated for 2026) and 0.464 mgd at build-out (estimated for 2057) and would not increase nor substantially decrease the availability of sewer service within the City or County (see more details in Section 2.5.1 Core Collection System and assessment of effects in Section 3.18.4, Impact Analysis [Utilities and Service Systems]). Therefore, the Town's connection falls within the requirements of this NPDES permit. Any requirements to modify the Chico WPCP NPDES permit would occur with future expansion of the facility to the 15 mgd capacity; it is not anticipated that modifications to the permit would be required with implementation of the Proposed Project since it does not require a change in the current facility's capacity or primary infrastructure.

A Cooperative Funding Agreement between the Town and City was executed for the purpose of assessing impacts of a potential Town connection to the Chico WPCP. The *Regionalization Planning Report for the Paradise Sewer Project* (Carollo Engineers 2022) reviewed the Chico WPCP operating needs and plant capacity, including the proposed Town connection in the year 2026. Results of this

assessment have indicated that the potential 0.464 mgd Town discharge to the WPCP is within the existing plant's capacity (12 mgd). The study further identified that due to estimated future wastewater flow increases to the Chico WPCP based on the City's current and future population, including the estimated Town sewer discharge in 2026, the City would need to implement a project at the WPCP, consisting of the addition of a fourth secondary clarifier. This clarifier would be installed within the footprint of the existing plant, adjacent to three existing secondary clarifiers. The fourth clarifier is required whether Paradise connects to the Chico WPCP or not. Considering the Town's maximum of 0.464 mgd flow anticipated to connect to the City's WPCP in 2026, the fourth clarifier would be needed in 2028. Without the Town's additional flow, the fourth clarifier is needed in 2029. The City would evaluate this clarifier project in a separate CEQA process; therefore, it is not a part of the Proposed Project addressed in this PEIR.

2.5 Proposed Project Components

As stated at the beginning of this chapter, the Proposed Project would consist of three primary components: Core Collection System, Export Pipeline System, and Extended Collection System. The first two components are analyzed in this PEIR at a project level because sufficient information is available about the characteristics, timing, and locations of these proposed components. Because the Extended Collection System is conceptual in definition and the characteristics, timing, and/or locations of the necessary buried gravity and pressure lines, maintenance holes, and pump stations are not available at the time of PEIR preparation, the Extended Collection System build-out is analyzed at a programmatic level in this PEIR. Once the Extended Collection System construction is defined, the Town would consider whether subsequent CEQA documentation is required.

Although not a physical change to the environment and, therefore, not required to be included in this PEIR (CEQA Guidelines 15064(d)), it is recognized that the Proposed Project would require the City and Town to enter into an inter-municipal agreement to capture the contractual terms for the provision of wastewater treatment services from the Chico WPCP to the Town (Government Code Section 56133) and a formal agreement or other mechanism for the construction and maintenance of facilities within the Butte County-maintained rights-of-way.

Also, as described in the introduction of Chapter 2 Project Description, the Butte LAFCo must approve the extension of services beyond the boundaries of Chico to allow the City to provide wastewater treatment services to the Town (Government Code Section 56133); therefore, this is considered in this PEIR.

Subsections 2.5.1 and 2.5.2 describe the two Proposed Project components that would be assessed at a project level of review, including associated construction methods; equipment, crews, and materials; and easement requirements for the Core Collection System and Export Pipeline System.

Section 2.5.3 provides a description of the Extended Collection System, which is assessed at a programmatic level of review, as stated above.

2.5.1 Core Collection System

2.5.1.1 Location and Description

The infrastructure proposed to serve Paradise's sewer service area within the Town is called the Core Collection System. This component aligns geographically with what is defined as the Sewer Service Area (SSA) in the *Town of Paradise 2022-2030 Housing Element Update* (Town of Paradise 2022a). The Core Collection System would support the centralized businesses and housing in Town, including approximately 1,500 parcels along the Skyway, Clark Road, and Pearson Road corridors (Figure ES-2; approximately 13-percent of the 11,500 total parcels within Town limits). Construction of the Core Collection System would disturb approximately 10.67 acres.

The parcels identified for the Core Collection System represent those with the highest probability for groundwater degradation associated with more concentrated uses, poor soils, high groundwater, and limited parcel sizes. The Proposed Project would add an additional 0.109 mgd of wastewater from the Town to the Chico WPCP influent at the time of initial connection (estimated for 2026; Section 2.6, Proposed Schedule). The estimated maximum wastewater conveyance and treatment need for the sewer service area is 464,000 gallons per day (0.464 mgd). This sewer estimate accounts for current and future estimated growth consistent with the current *Town of Paradise General Plan* and *Town of Paradise 2022-2030 Housing Element Update*, and would be realized over a projected 30-year planning horizon (Town of Paradise and Quad Consultants 2008; Town of Paradise 2022a). The Core Collection System and Extended Collection System combined is limited to the 0.464 mgd maximum and would be included in the inter-municipality agreement between the Town and City.

The Core Collection System would be sized to accommodate the Town population within the 30-year planning horizon (Town of Paradise 2022a), with the capacity to serve parcels within the Town's sewer service area and would consist of:

- Force (pressurized) mains, which are pressurized sewer pipes that convey water under pressure from the discharge side of the pump and are often used where gravity is not enough to move wastewater or stormwater runoff through a sewer line;
- Small pump stations used to move wastewater to higher elevations to allow subsequent transport by gravity flow; and
- A system of gravity sewers, which would use energy resulting from a difference in elevation to remove wastewater.

Most of the Core Collection System components would be constructed within the existing Town ROW. Temporary private easements could be required to install components of the Core Collection System, such as pipelines or pump stations. Remediation and disposition of existing on-site septic tanks and leach fields would be the responsibility of the individual parcel owner, as described further below. Because of the varied topography within the sewer service area, pump stations and pressurized force mains would be required to pump flows out of valleys and other low-lying areas to adjacent gravity sewers. Figure 2-5 presents examples of pump stations (one large and one small) that could be placed, as required, along the Town or County roadway ROW. Figure 2-6 shows the sewer main and sewer laterals proposed alignment within the Core Collection System area.

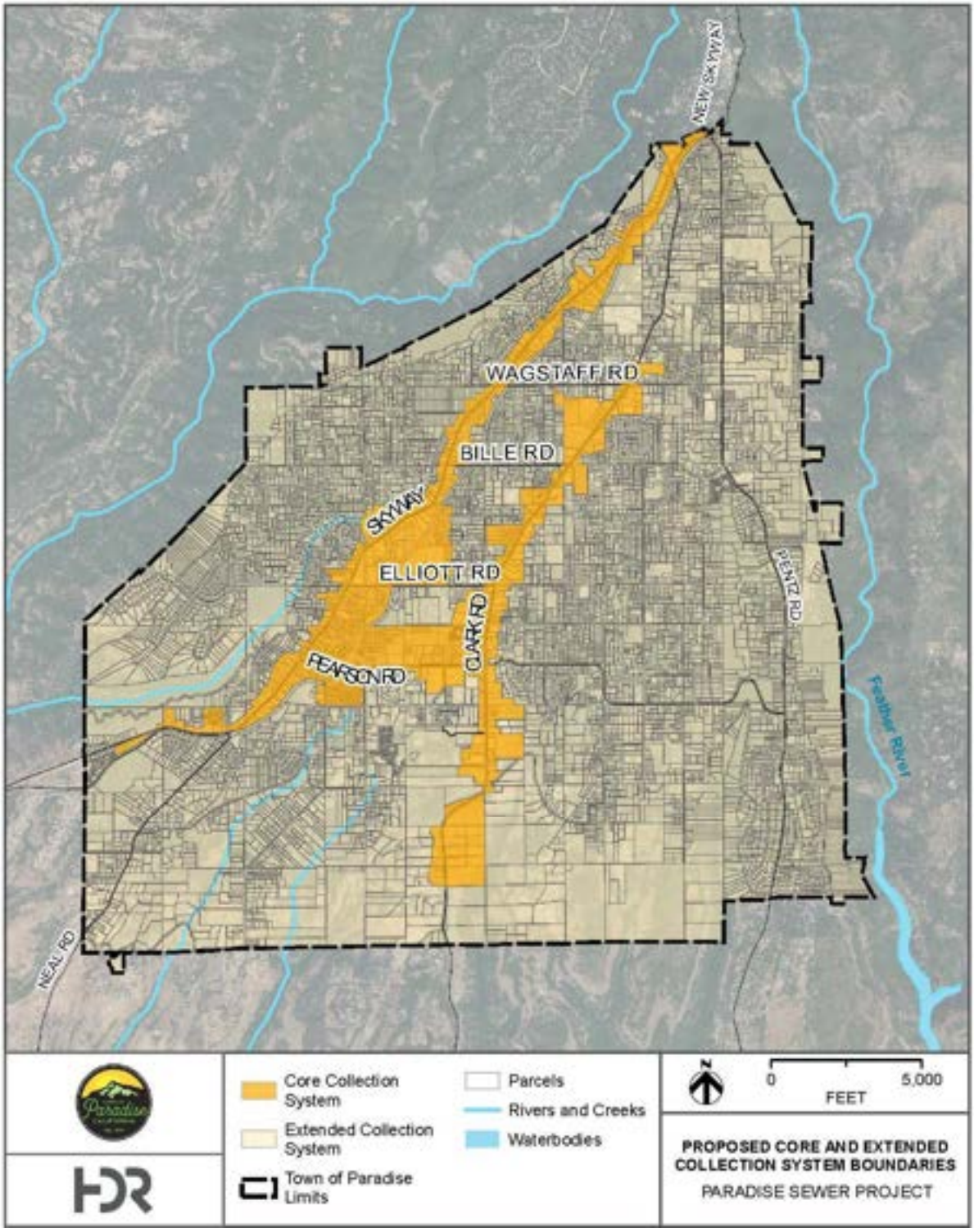

Figure 2-4. Town of Paradise Proposed Core and Extended Collection System Boundaries

Figure 2-5. Examples of Below-grade Pump Stations (left: large, approximately 8 feet in diameter; right: small, approximately 3 feet in diameter)

The Core Collection System would consist of approximately 157,000 feet of 6- to 8-inch-diameter gravity sewers, 29,000 feet of 2- to 4-inch-diameter force mains, and up to 28 pump stations. The pipelines would be buried approximately 3 to 15 feet below the ground surface, depending on local topography and sewer system design features and constraints. At individual parcels (residential dwellings and businesses), public sewer laterals (typically 4 inches in diameter) would extend from the Core Collection System's gravity sewer main to the property line, transitioning to a private sewer lateral within the parcel, leading to the structure (Figure 2-7). As part of the Proposed Project, the portion of the sewer lateral extending from the core collection system to the cleanout, and the cleanout itself, will be installed; the Town will be responsible for maintaining those portions of the sewer lateral. The private owner will be responsible for installing and maintaining the remainder of the sewer lateral up to the building, using the cleanout as the point of connection. The cleanout provides a direct access point to the sewer lateral, and is installed for the purpose of cleaning or clearing a clog located along the sewer lateral. A cleanout looks like a capped pipe sticking a few inches above the ground. The cleanout allows the Town and private owner to maintain their respective portions of the sewer lateral.

If there is an opportunity to construct multiple segments of the Core Collection System at the same time, construction methods can be accelerated to construct the segments simultaneously. Construction of the Core Collection System pump stations and sewer force mains would occur at the same time as the gravity sewers. Construction of the gravity sewer mains in the Core Collection System would likely be completed in segments, block by block, or multiple blocks at a time, starting from the downstream end of the system (at the southwestern edge of the Town) and working upstream, based on standard construction methods and installation of gravity sewers.

The Core Collection System would transition to the Export Pipeline System at the southwestern edge of Town, on the Skyway (Figure ES-1). The connection of a parcel's sewer to the Proposed Project would eliminate the need for an individual parcel to use an on-site septic system and leach field. The transition

to the Core Collection System for existing structures with functioning septic system and no plans for substantial building expansion would be at a property owner's discretion, although the Town is pursuing

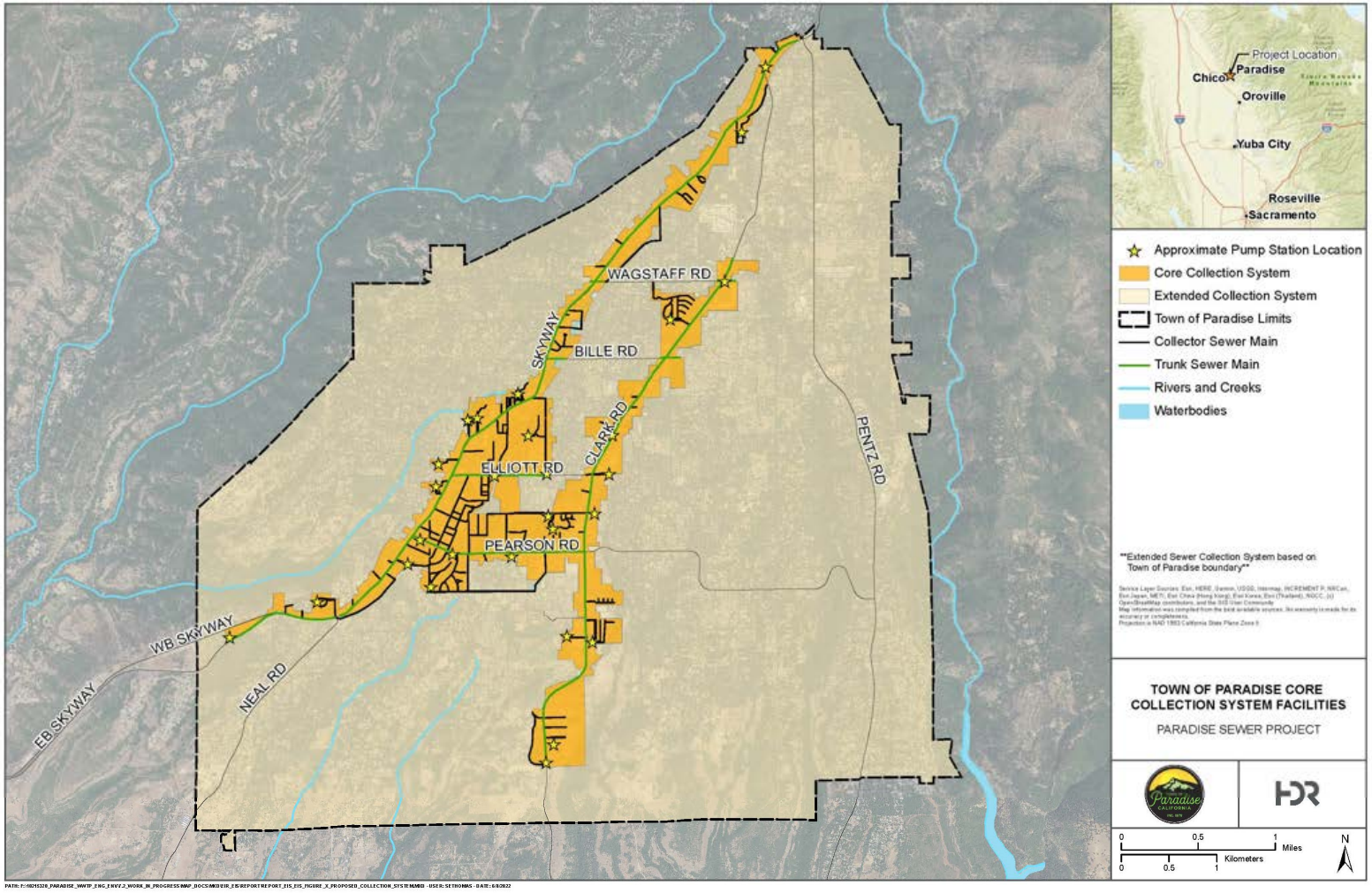

Figure 2-6. Core Collection System

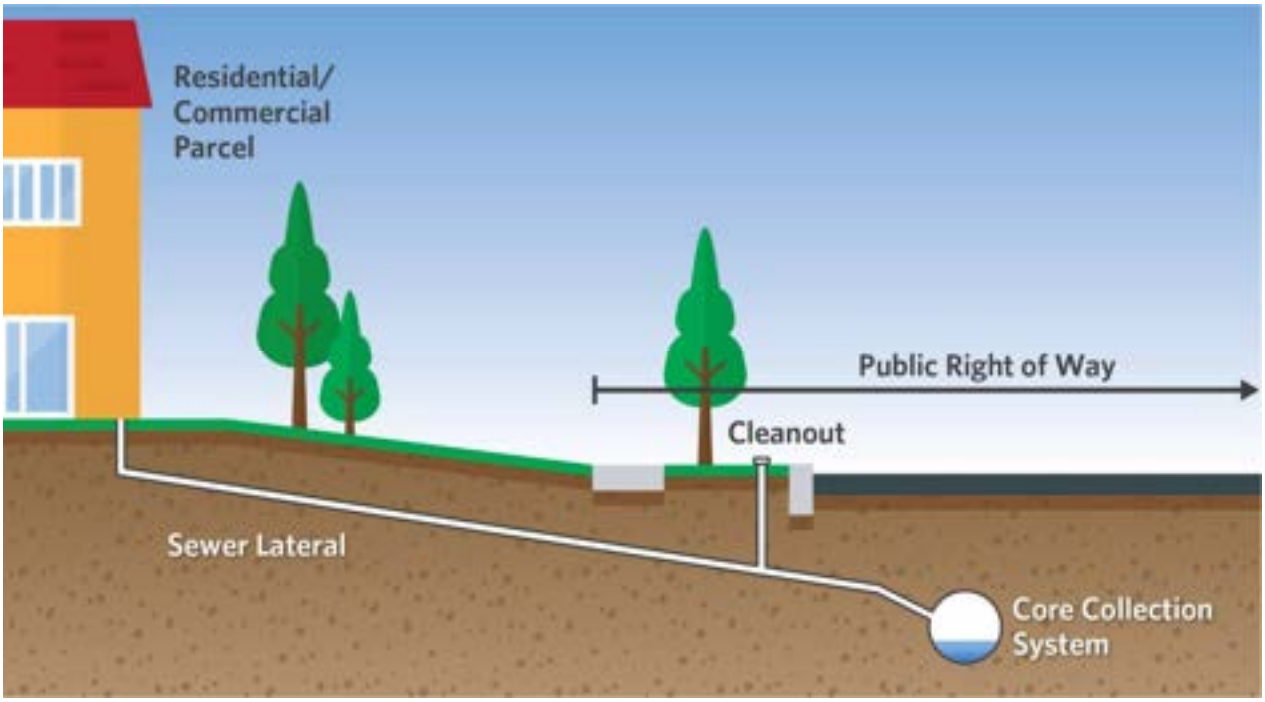

Figure 2-7. Connection to Core Collection System

Table 2-1. Core Collection System Pipeline Measurements

Collection System Feature	Approximate Pipe Length (feet)	Pipe Diameter (inches)
Gravity Sewers	157,000	6–8
Force Mains	29,000	2–4
Sewer Laterals (approximately 1,500)	30–50 each (varies)	4–6 (varies)

grants to incentivize sewer connection within the Core Collection System area. Those properties in the Core Collection System area that would be required to connect to the sewer system would include: (1) new construction that generates wastewater, (2) an existing structure with a failed onsite wastewater system, as determined by the Onsite Sanitary Official, or (3) structure expansions greater than 750 square feet for residential or 1,000 square feet for commercial; this criteria is consistent with exemption thresholds included in Chapter 12.20 of the Town's *Municipal Code for Improvements – Right of Way Dedication* (Town of Paradise 2022b). A sewer ordinance would be adopted by the Town and is anticipated to include the same parameters. Remediation and disposition of existing on-site septic tanks and leach fields would be the responsibility of the individual parcel owner, and these actions are not considered in this PEIR as part of the Proposed Project; a parcel's septic system would need to be remediated (abandoned or removed) pursuant to existing regulations as a condition of connecting to the Proposed Project. A process for abandonment of a private septic system has been established under the County's existing standards and the Town's on-site septic management processes. Information is available to the public on the Town's website (https://www.townofparadise.com/septic/page/abandonment-septic-system). Additionally, permitted clustered septic wastewater treatment would

remain allowable within the Town boundaries under the Proposed Project. The clustered septic system combines several discharges, treats the waste in a single treatment plant, and discharges to subsurface land disposal, thereby eliminating adverse impacts associated with the individual septic leach line systems (Town of Paradise 2022a). Although this option can be feasible for larger projects or consortiums of property owners, it is not viable for small individual projects due to relatively high associated costs (Town of Paradise 2022a).

2.5.1.2 Construction Methods

Construction within the Town's ROW would use open-cut trenching methods to install the pipes and structures that comprise the Core Collection System. Open cut trenching is a method of installation that requires opening up the surface of the ground to install, repair or replace a new structure, such as a pipe, conduit, or cable. The excavation is then backfilled, and the surface restored. Section 2.5.2.2 *Construction Methods*, Figure 2-11, shows examples of typical open-cut pipe installation. Where located within public streets, portions of the Town's ROWs would serve as a temporary construction zone, with restricted access to the ROW to allow trenching equipment to dig trenches. Work crews would install the pipe and structures, then backfill the excavation, restore the ground surface to its previous or better conditions, and re-establish full access to the area. The required maintenance holes and pump stations would involve similar construction methods of open cuts, installation, backfill, and restoration.

Water encountered in trenches during Core Collection System construction would be managed according to local and state standards, which may include water collection and storage prior to disposal or reuse (via local temporary sump pumps and Baker Tanks to improve water quality or quantity, as needed). Discharge or reuse may include pre-settlement of solids, and reuse may include use in water trucks for dust control during construction.

2.5.1.3 Equipment, Crews, and Materials

The following construction quantities were estimated for the Core Collection System (HDR 2022).

Construction Crews and Equipment

Table 2-2 summarizes the construction crew size and equipment types required for Core Collection System construction.

Table 2-2. Summary of Construction Crews and Equipment for Core Collection System

Number of Workers Per Crew	Equipment
Asphalt Removal Crew	
1	Sawcutting machine
1	Water truck/trailer
1	Backhoe/loader 95hp, Cat 420
1	Excavator 1.5 cy, 165hp Cat 320
2	Truck tandem 16 cy
1	Skidsteer 80hp
7	**Total Workers**

Crews and Number of Workers Per Crew	Equipment
Small-diameter Pipe Installation Crew	
2	Excavator 1.5 cy, 165hp Cat 320
1	Loader 170hp, Cat 930
2	Concrete truck
1	Roller compactor, walk behind, 20hp
3	Vibratory plate/jumping jack compactor
2	Truck tandem 16 cy
11	**Total Workers**
Asphalt Replacement Crew	
1	Backhoe/loader 95hp, Cat 420
1	Loader 170hp, Cat 930
1	Skidsteer 80hp
1	Water truck/trailer
1	Asphalt paver 75hp
2	Roller compactor, riding, 25T, 170hp
2	Vibratory plate compactor
2	Truck tandem 16 cy
2	Striping truck
13	**Total Workers**
Pump Station Installation Crew	
2	Excavator 2.5 cy, 310hp Cat 336
1	Loader 170hp, Cat 930
1	Roller compactor, walk behind, 20hp
4	Vibratory plate/jumping jack compactor
1	Truck tandem 16 cy
1	Mobile soil-cement mixer, Cement Tech M30, 425hp
1	Excavator 2.5 cy, 310hp Cat 336
1	Loader 170hp, Cat 930, soil processor bucket
12	**Total Workers**

Notes: cy = cubic yard; hp = horsepower

Based on an anticipated 22-month construction period, installation of the Core Collection System would require multiple crews to be working at the same time (HDR 2022). The following is the estimated number of crews working at any given time:

- Asphalt Removal: 1 crew
- Small-diameter Pipe Installation: 7 crews
- Asphalt Replacement: 1 crew
- Pump Station Installation: 2 crews

Excavated and Fill Materials

The following excavated and fill materials are anticipated for Core Collection System construction (HDR 2022):

- Soil exported: 169,400 cubic yards
- Fill material imported: 62,600 cubic yards

Construction Materials

The following materials would be used in the Core Collection System construction (HDR 2022):

- Polyvinyl chloride (PVC) pipe and miscellaneous fittings
- Pre-built pump stations and associated mechanical/electrical components
- Temporary and permanent paving (asphalt)
- Backfill material

Estimated Truck Trips

Based on an anticipated 22-month construction period for the Core Collection System, an average of 750 round-trip truck trips distributed across an average of 11 crews working at a given time would be generated each working day during construction (HDR 2022). This equates to approximately eight trucks per crew per hour, which would be dispersed across multiple locations within the Core Collection System construction area.

2.5.1.4 Easement Requirements

The majority of the Core Collection System would be installed within the Town's ROWs (i.e., Town streets, existing public ROW). However, small segments of the Core Collection System may need to cross private parcels to install components of the Core Collection System, such as pipelines or pump stations. In those cases, temporary or permanent easements would be acquired from the property owners. As noted above, remediation and disposition of existing on-site septic tanks and leach fields would be required to connect to the sewer system and would be the responsibility of the individual parcel owner; therefore, no easement requirements would be associated with septic remediation.

2.5.2 Export Pipeline System

2.5.2.1 Location and Description

The proposed Export Pipeline System would start at the southern end of the Core Collection System as a gravity sewer line and would continue southwest to the City for connection to the Chico WPCP. In total, construction of the Export Pipeline System would disturb approximately 5.95 acres. The system would be primarily constructed within the Butte County public ROW, except for approximately 5,700 feet (1.1 miles) of the 18-mile proposed pipeline construction in southern Chico and at the connection with the Chico WPCP. Where the proposed pipeline alignment leaves the Butte County public ROW at Skyway, east of SR 99, it would remain within an inactive UPRR corridor before bisecting two private parcels located within the City limits. This segment including the UPRR corridor, and the two private parcels is the only segment along the proposed Export Pipeline System that is not in the public ROW. The segment for connection to the Chico WPCP would fall within the WPCP site, which is City property. Further, the crossing of the two private parcels and the final connection at the Chico WPCP are the only segments of the Proposed Project that would fall within City boundaries. Easements for the UPRR and private crossings are discussed in Section 2.5.2.4 *Easement or Access Permission Requirements*. See Figure ES-3 for the pipeline route location, with the section of proposed crossing of private parcels identified.

The proposed Export Pipeline System would include the following sub-components:

- **Ridge Gravity Section:** At the terminus of the Core Collection System, the Export Pipeline System begins with the Ridge Gravity Section. In this section, the wastewater flows by gravity. No pump stations would be required. To handle both the initial low wastewater flows and future build out flows, two separate gravity sewer pipes are needed: one 8 inches in diameter to handle low flows, and one 10 inches in diameter that would accommodate the build out flows. The 10 inch-diameter pipe would be placed directly above the 8-inch-diameter pipe, with an accompanying fiber-optic conduit for pipeline operations. All three items would be installed at the same time and are needed based on the hydraulic parameters of sewer gravity flow. These parameters are dependent on flow velocity, which is in part dictated by the amount of flow in the system and the size of the pipe. Both sewer pipes and conduit would be approximately 7.5 miles in length, installed approximately 10 feet deep, and remain within the County ROW.
- **Transition Chamber:** The Transition Chamber would provide the necessary transition of the wastewater flow from the steep Ridge Gravity Section to the Gravity Force Main Section that runs along the flatter portions of the valley floor, connecting the Gravity Force Main Section to the Chico WPCP. The Transition Chamber would be installed along Skyway, just before the pipeline reaches the City limits. The chamber would be a below-ground (likely cylindrical) structure, approximately 10 to 12 feet in diameter and 10 to 15 feet deep, with a small box-like structure above ground to house electronics associated with measurement devices within the chamber. Examples of what the above-ground structure and the below-ground structure could look like are included in Figure 2-9 and Figure 2-10, respectively.
- **Gravity Force Main Section:** Flow leaving the Transition Chamber would be under pressure based on the gravity flow from the steep Ridge Gravity Section, and the pipe would flow full, creating a beneficial force main based on the hydraulic behavior of the sewer (eliminating the need for a pump station, which is not a part of this system), so the effluent can reach the Chico WPCP. No pump stations would be required. The Gravity Force Main Section would consist of 10.5 miles of a 12 inch-diameter pipe, with an accompanying fiber-optic conduit above, at a minimum depth of 3 feet (depth varies). The pipeline would be installed along existing roads within the County ROW, or within permanent sewer easements obtained from private property owners, if necessary. There is one segment of this section that crosses perpendicularly under SR 99 (in a tunneled crossing), which is a state highway. For that section, approval from the California Department of Transportation (Caltrans) would be obtained.
- **Maintenance Holes:** Along the Ridge Gravity and Gravity Force Main Sections, approximately 80 maintenance holes, which are required for the maintenance of the pipelines, would be spaced approximately 500 feet apart.
- **Flow Control and Metering Structure:** A Flow Control and Metering Structure, located at or near the Chico WPCP, would consist of two below-ground circular chambers (or similar) next to each other, each approximately 8 feet in diameter and 10 to 15 feet deep. Similar in size to the aboveground structure supporting the Transition Chamber described previously and shown in Figure 2-9, a small, above-ground, box-like structure would house electronics associated with the flow control and measurement devices installed below ground. An example of what the

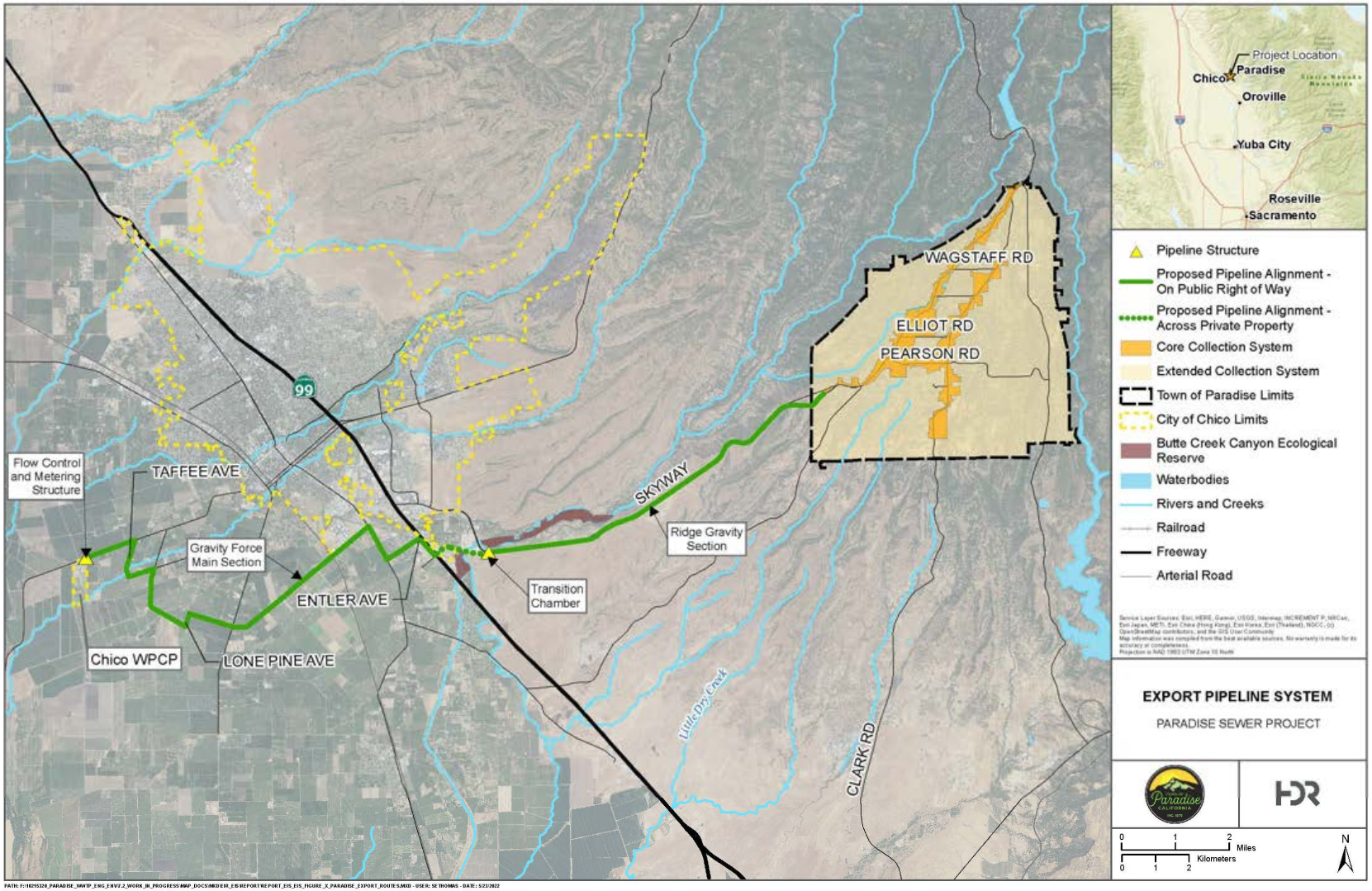

Figure 2-8. Export Pipeline System

Figure 2-9. Example Transition Chamber with Vehicular Bollard Protection

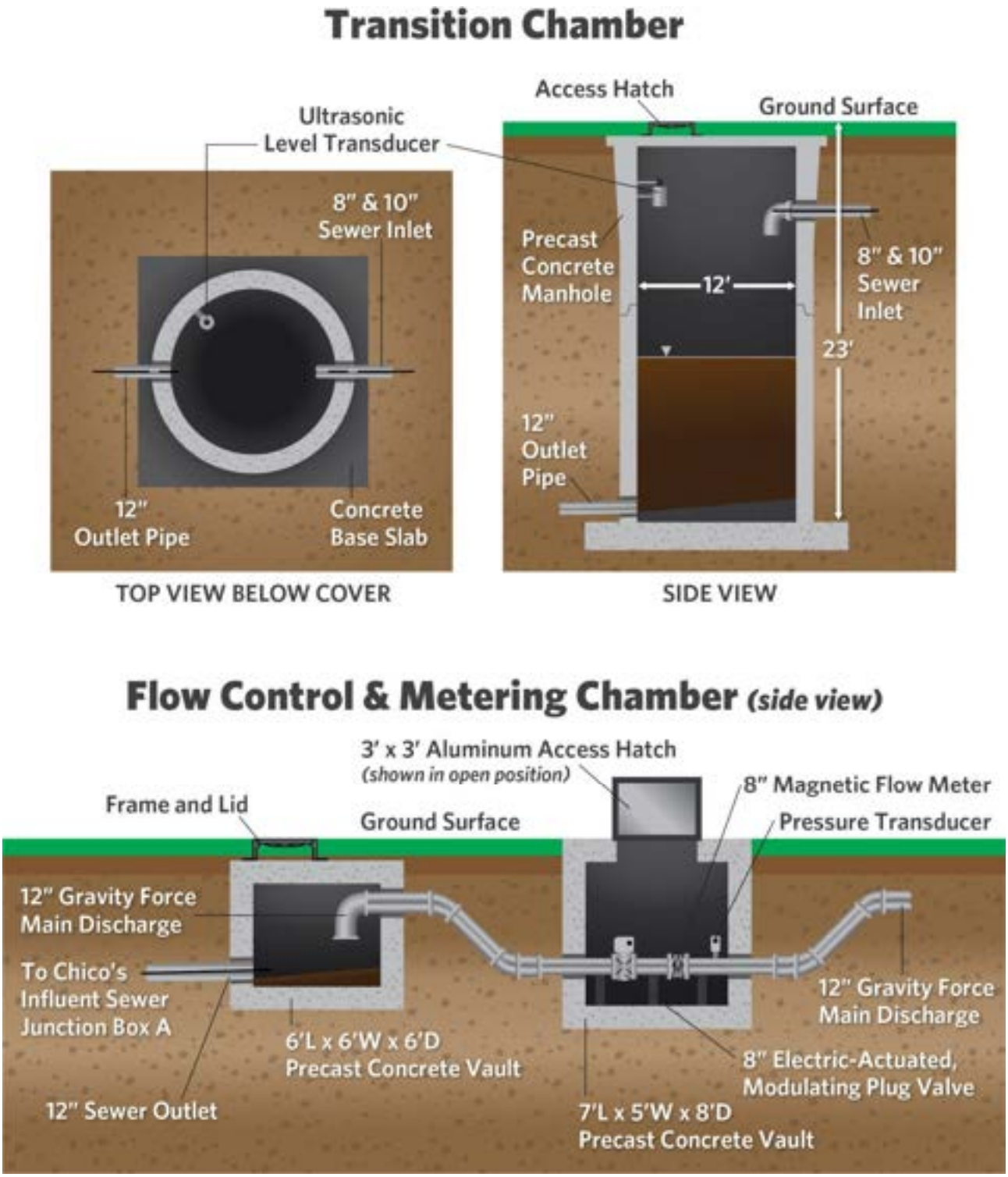

Figure 2-10. Transition Chamber and Flow Control and Metering Chamber Examples

below-ground structure could like is included in Figure 2-10. The first below-ground chamber would be dry (the wastewater would remain within the pipe that is exposed within the chamber) and would contain a magnetic flow meter and a pressure gauge on the pipeline, with the chamber being the access point to this flow meter. The second chamber would be wet, with the wastewater discharging into the chamber via a modulating plug valve. A modulating plug valve would keep the Transition Chamber and Gravity Force Main Sections full, to maintain the hydraulic function of the Gravity Force Main Section. In this chamber, the wastewater would travel through the modulating valve, discharge into the open chamber, and then flow by gravity from the second chamber to the existing Influent Sewer Junction Box A at the Chico WPCP. This would be the terminus of the Export Pipeline System.

- **Fiber-optic Conduit:** As discussed above, the Proposed Project includes two below-ground structures along the Export Pipeline System: a Transition Chamber and a Flow Control and Metering Structure. These two structures include instruments that would monitor various parameters of the wastewater, such as water levels, valve positions, and wastewater flow rate. To reliably communicate the signals from those electrical instruments to the Town and the Chico WPCP, the Proposed Project would include installation of a 2-inch-diameter, fiber-optic conduit in the same trench as the Export Pipeline System. The conduit would be made of metal, PVC, or fiberglass braiding, and would be placed above the pipelines. This component is essential to the extension of the wastewater services from the City to the Town, as it is the mechanism to track flow volume, characteristics, and timing of discharges, and would be used in ongoing evaluation and operation decisions between the Town and City.
- **Chico WPCP Connection:** The southern end of the Export Pipeline System would connect to the existing Chico WPCP. This connection would involve drilling a hole in an existing below-ground concrete box at the facility and connecting the new pipeline. Consistent with existing operations, the wastewater would be treated at the Chico WPCP and discharged to the Sacramento River through a submerged outfall diffuser. It is anticipated that the Town's connection would fall within the requirements of the current NPDES permit, as discussed in Section 2.4.2.

Construction of the Export Pipeline System would be divided into segments, with multiple segments under construction at any single point in time. A summary of measurements and installation depths for the proposed Export Pipeline System components is provided in Table 2-3.

Table 2-3. Export Pipeline System Measurements

Export Pipeline System Component	Approximate Diameter	Approximate Length/Number	Approximate Installation Depth (feet)
Ridge Gravity Section	8 and 10 inches	7.5 miles	10
Transition Chamber	10–12 feet	1	10–15
Gravity Force Main Section	12 inches	10.5 miles	3–10
Flow Control and Metering Structure	8 feet	2	10–15
Fiber-Optic Conduit	2 inches	18.0 miles	2–14

2.5.2.2 Construction Methods

Open-Cut

The Export Pipeline System would generally be constructed using open-cut methods (also known as open-trench method; Figure 2-11). The trench would be approximately 5 feet wide and up to 10 feet deep. The construction sequence would consist of (1) backhoe excavation; (2) shoring systems installation for trench excavation protection to achieve the excavation depth; (3) pipe installation; and (4) trench backfill placement, with subsequent shoring system removal and ground surface restoration. Excess soil produced by the excavation would be disposed of consistent with all regulatory requirements. Along the Skyway segment and segments along other county roads, construction activities would generally be limited to the County ROW within and adjacent to those roads. For this analysis, it is expected that approximately 200 to 500 feet of pipeline may be installed per day of construction, with installation rates expected to be at least twice that in the valley areas, where the terrain is flat. Up to 11 staging areas are identified for potential use by the contractor to store pipe, backfill materials, and construction equipment. Staging areas are discussed further in Section 2.7.1.

Figure 2-11. Typical Open-cut Pipe Installation (left: pipe layout; right: open cut and shoring)

Trenchless Crossings

A trenchless construction method is proposed at five locations along the proposed Export Pipeline System route, as shown in Figure 2-12. The trenchless crossings would be constructed using either horizontal directional drilling (HDD) or microtunneling methods, depending on the feature being crossed. Both methods would involve excavated pits at either end of the crossing to allow pipe installation beneath the feature (e.g., creek, highway, railroad), and avoiding the disruption of excavation at the surface of the specific feature location. Table 2-4 provides the potential crossing type at specific locations. The following subsections describe the specifics for these methods.

Table 2-4. Trenchless Crossing Location Details

Location	Anticipated Trenchless Crossing Type	Approximate Crossing Dimensions	Figure Number
Butte Creek and Butte Creek Canyon Ecological Reserve	HDD	1,065' L x 20' D (below creek bed)	Figure 2-14
Comanche Creek	HDD	500' L x 20' D (below creek bed)	Figure 2-15
Little Chico Creek	HDD	500' L x 20' D (below creek bed)	Figure 2-16
State Route 99	Microtunnel	1,100' L x 30' D (below roadway centerline)	Figure 2-18
Union Pacific Railroad	Microtunnel	500' L x 30' D (below rail line centerline)	Figure 2-19

Notes: HDD = Horizontal Directional Drilling; ' = foot; D = depth; L = length

Horizontal Directional Drilling Crossings

HDD crossings are proposed in three locations along the Gravity Force Main Section to avoid affecting creeks and the Butte Creek Canyon Ecological Reserve:

- Butte Creek and Butte Creek Canyon Ecological Reserve (single crossing below both features)
- Comanche Creek
- Little Chico Creek

After excavation of an open pit on either side of the creek, outside the sensitive areas (one launching and one receiving pit, each approximately 10 feet long by 5 feet wide by 5 feet deep), the HDD pipe installation method involves three phases (shown in Figure 2-13):

- **Pilot Hole Drilling:** The HDD machine drills a small-diameter pilot hole on a directional path (guided by a Global Positioning System [GPS] unit) from the launch pit to the receiving pit, leaving a drill string in place in the pilot hole. Drilling fluid is pumped into the pilot hole to maintain the integrity of the hole and flush out cuttings.
- **Preream:** Once the pilot hole has been completed, the borehole must be enlarged to a suitable diameter for the pipeline. Generally, the reamer is attached to the drill string at the receiving pit and pulled back into the pilot hole towards the launch pit. Again, drilling fluid is pumped into the enlarged borehole to maintain the integrity of the hole and flush out cuttings.
- **Back Reaming and Pull Back:** Once the directionally drilled hole is enlarged, the pipeline can be pulled through it. The pipeline is prefabricated at the receiving pit. A reamer is attached to the drill string, and then connected to the pipeline by a pulling head. The HDD machine then begins the pullback operation, rotating and pulling on the drill string as well as circulating drilling fluids. The pullback continues until the reamer exits the bore at the launch pit and the pipeline is in place.

The HDD crossings would be required to have a minimum depth of 20 feet and a maximum depth of 30 feet below the waterbody.

To comply with local and state construction standards, and to protect the waterbody at the proposed crossing location, the contractor would prepare an Inadvertent Release Plan, which the Town would approve prior to the start of the HDD effort. The plan would establish required construction practices to minimize risk of a release, establish monitoring requirements, and define contingency procedures that

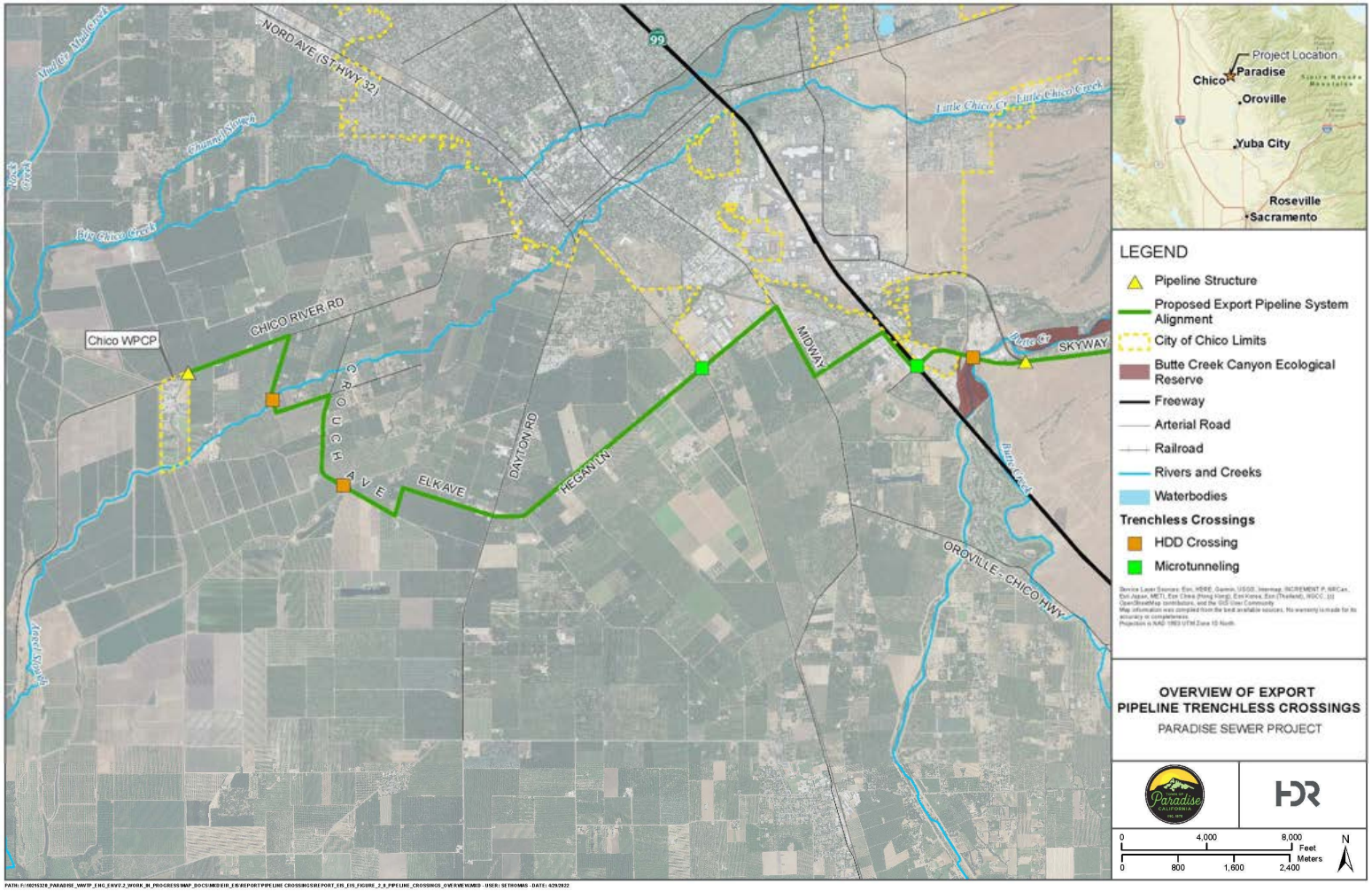

Figure 2-12. Overview of Export Pipeline Trenchless Crossings

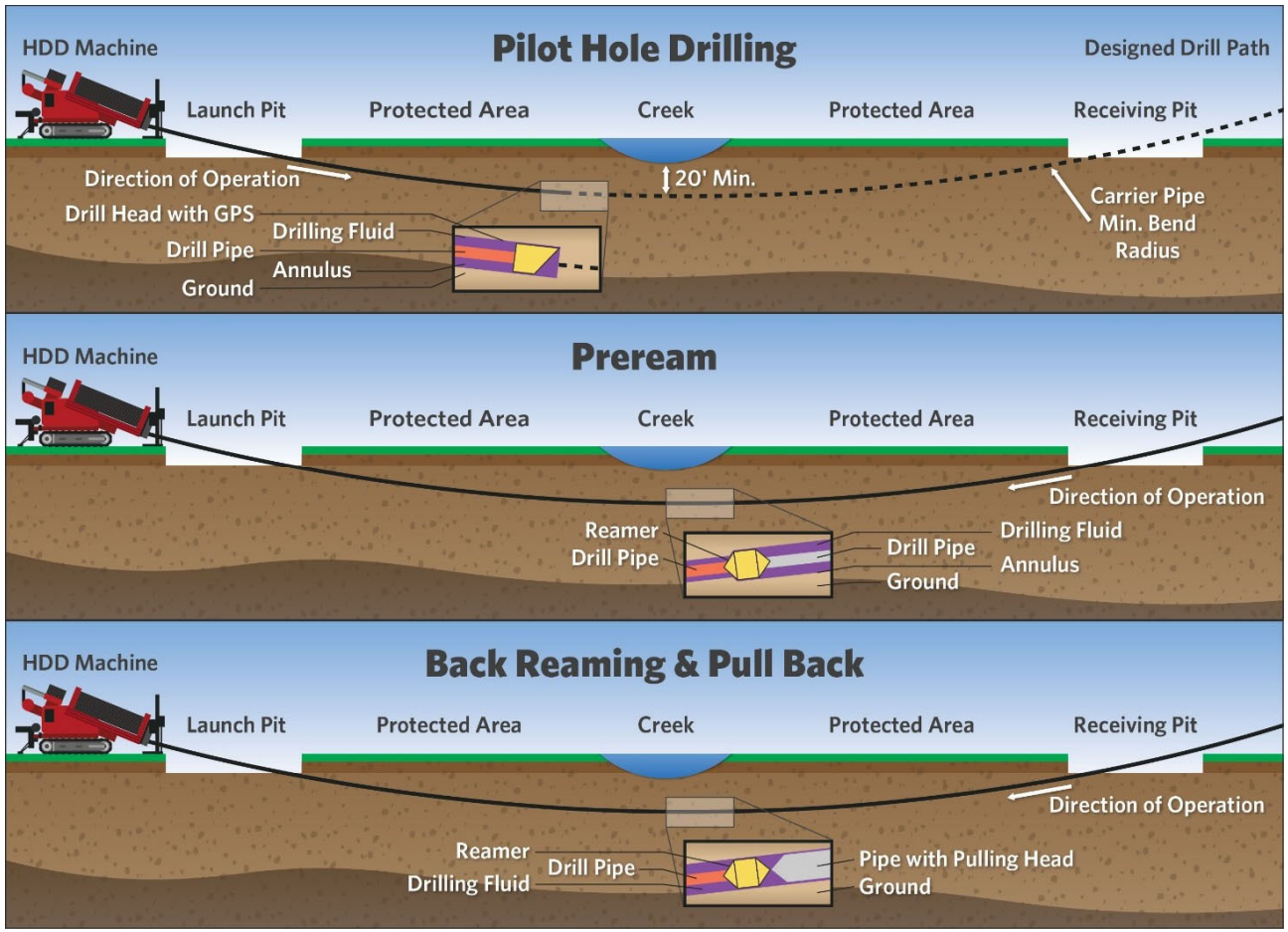

Figure 2-13. Typical HDD Installation

would be followed if the directional bores or pipeline installations caused movement of the soil (referred to as a frac-out) in the waterbody. This scenario is an unlikely, but possible, result of the HDD crossing of the creek.

The work area would include a stockpile area, isolated from any waterbodies, for the excavated material from the launching and receiving pit. The HDD crossing length is a function of the minimum depth requirement and the maximum bend or arch that can be placed on the pipeline, based on the pipeline material properties. Depending on the crossing length and the topography on each side of the crossing, the depth of the pipeline below the surface would vary. Both launching and receiving pits would be shallow (approximately 5 feet deep) and would have work areas around them to facilitate installation and protect the creek. Figure 2-14, Figure 2-15, and Figure 2-16 show the three proposed HDD locations. Section 3.4 provides an assessment of the potential for effects from construction on sensitive resources.

Microtunnel Crossings

Caltrans and Union Pacific Railroad (UPRR) require pipelines to be installed inside an outer casing pipe when crossing below their facilities (highways and railroads, respectively). Both crossings are in highly disturbed areas, not zoned as residential and no residences are present. Nighttime work could occur during microtunneling, when work would need to be completed so as to avoid tunnel failure. If required, as discussed in Section 2.6 Proposed Schedule, the contractor will be required to obtain a special permit from the County Public Works Department that will be appended to the utility encroachment permit for the Proposed Project along with additional conditions. The contractor will be held to permit conditions by the Town and County.

Microtunneling (Figure 2-17) is a construction method that allows installation first of a casing pipe, and then insertion of the primary pipe. Therefore, microtunnel crossings are proposed at SR 99 and UPRR within the Gravity Force Main Section. Microtunneling involves excavation at an estimated depth of 30 feet, with a 30- by 12-foot launching pit, a 12- by 12-foot receiving pit, and work areas surrounding each pit. The work area would be within a previously disturbed area and include a stockpile area for the excavated material of the launching and receiving pit. The pits would be outfitted with temporary water inflow controls and watertight shoring to stabilize the pits during construction. The shoring is typically installed using a pile driver (vibratory or impaction) or an auger with a drill rig during excavation of the launching and receiving pits. Water encountered during pit excavation would be placed into a settling tank before being transported for discharge or reuse, according to local and state standards.

Once the launching and receiving pits are constructed, one 26- or 28-inch-diameter steel casing would be installed to provide the pathway for the underground crossing of the Gravity Force Main Section pipe at this segment. Once completed, the Gravity Force Main Section pipe would be installed inside the steel casing, as shown in Figure 2-17.

After the temporary construction features (slurry pipes, thrust blocks, shoring) are removed, the launching and receiving pits would be backfilled. As they are backfilled, the export pipeline would be installed vertically, to extend the buried pipeline at the crossing to a shallower depth on each side, on the receiving and discharge ends of the pipeline, completing the pipe segment. See Figure 2-18 and Figure 2-19 for the vertical pipeline alignment at the SR 99 and UPRR crossings, respectively.

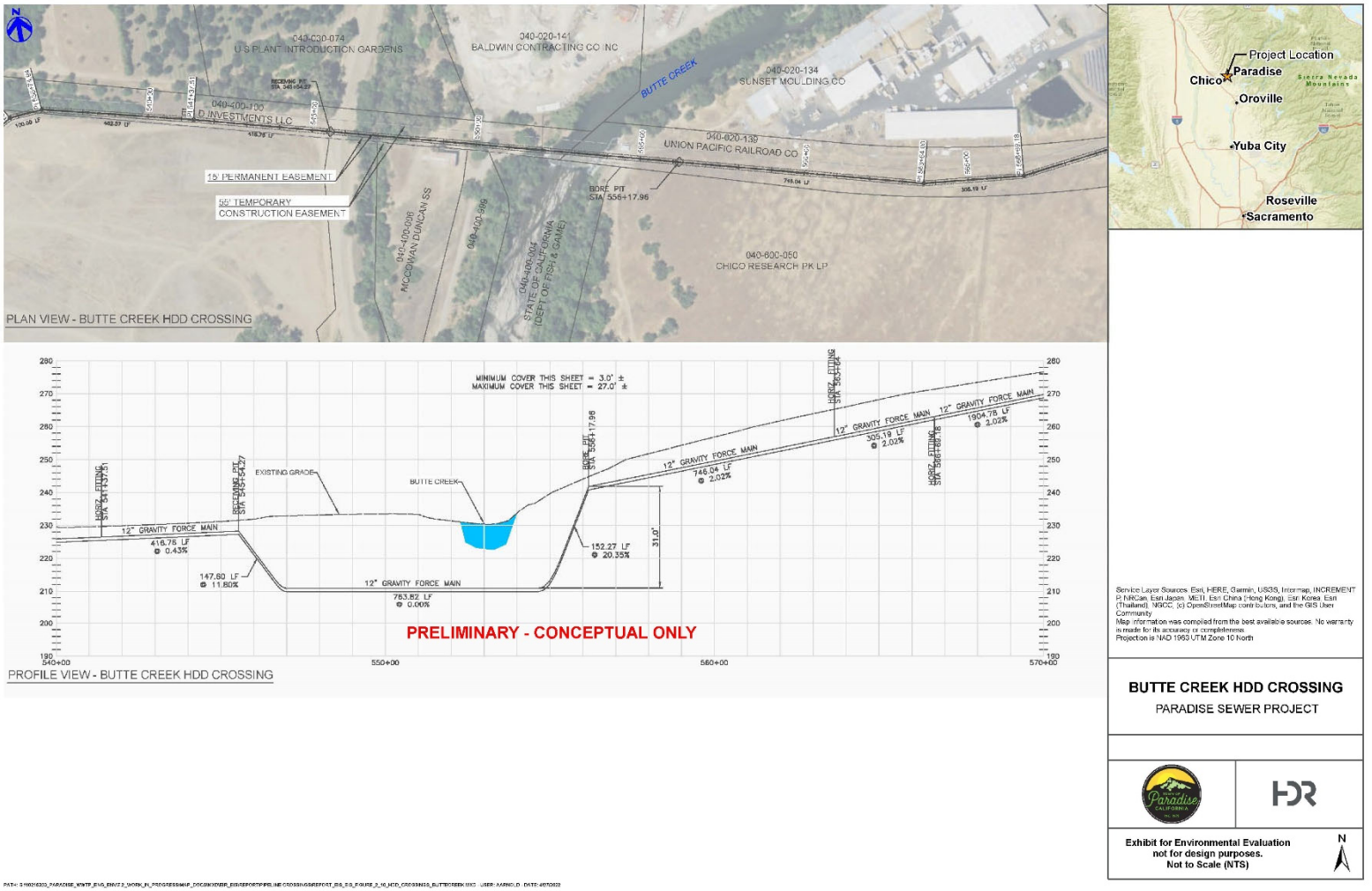

Figure 2-14. Butte Creek and Butte Creek Canyon Ecological Reserve HDD Crossing

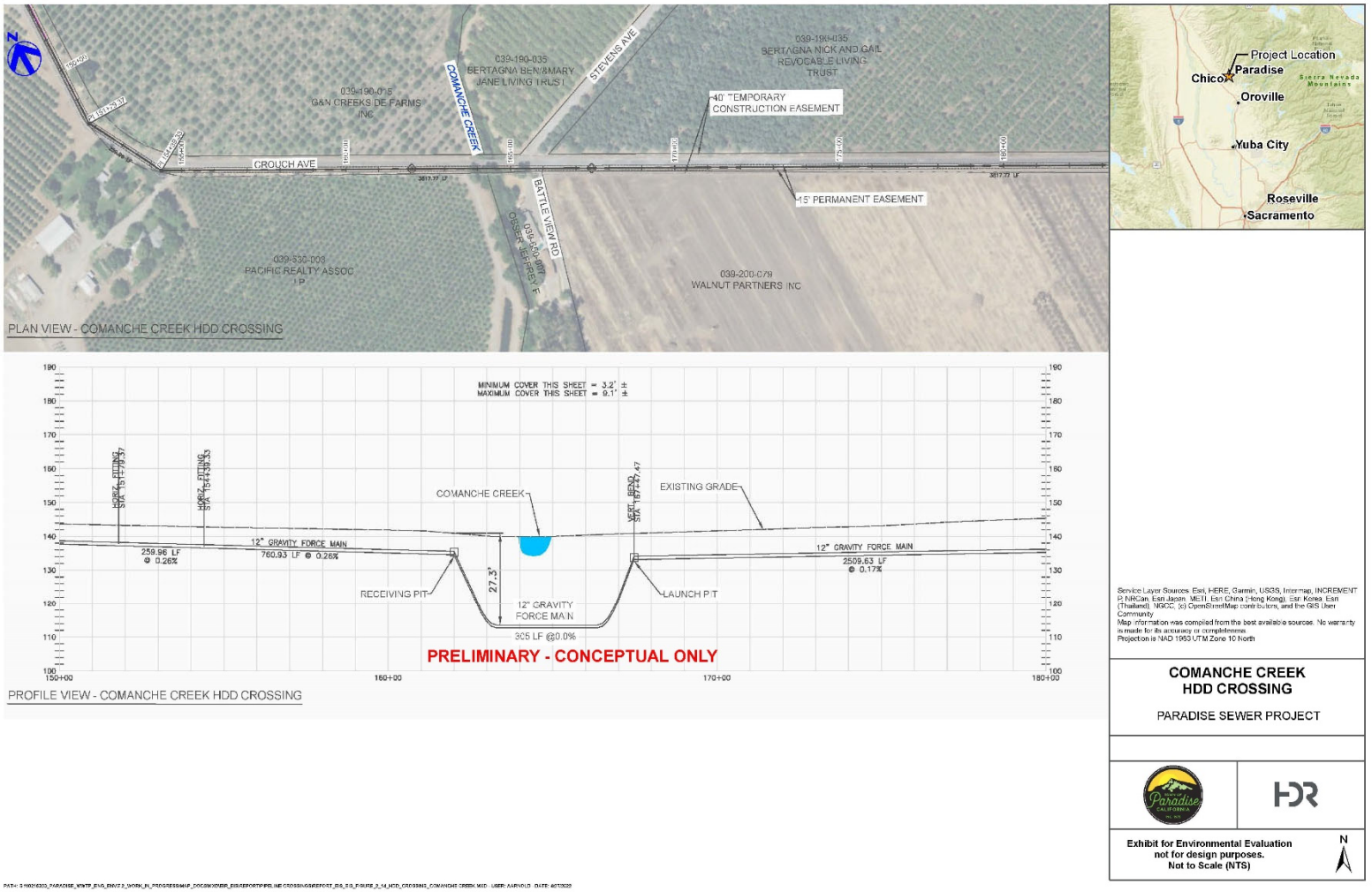

Figure 2-15. Comanche Creek HDD Crossing

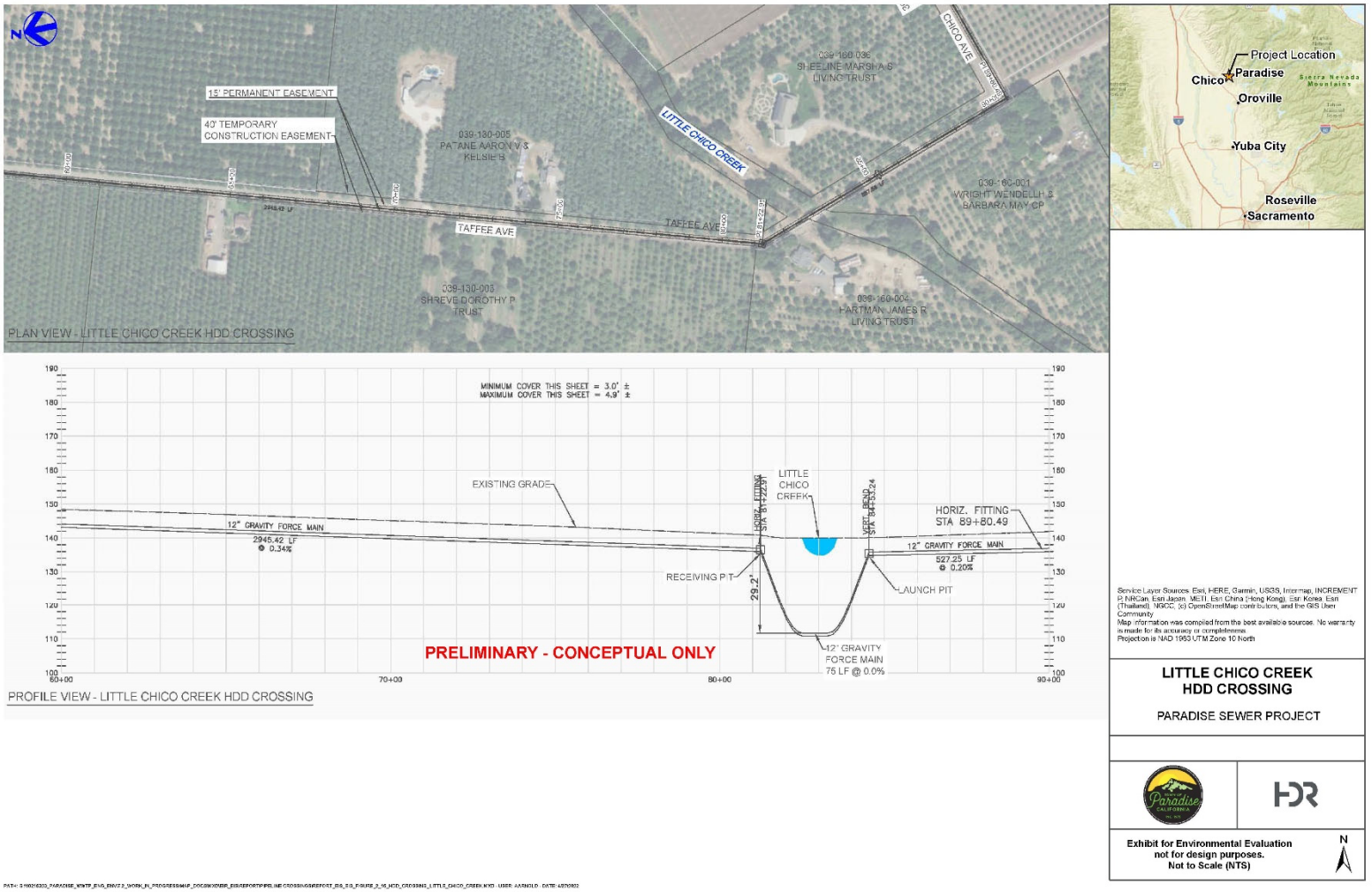

Figure 2-16. Little Chico Creek HDD Crossing

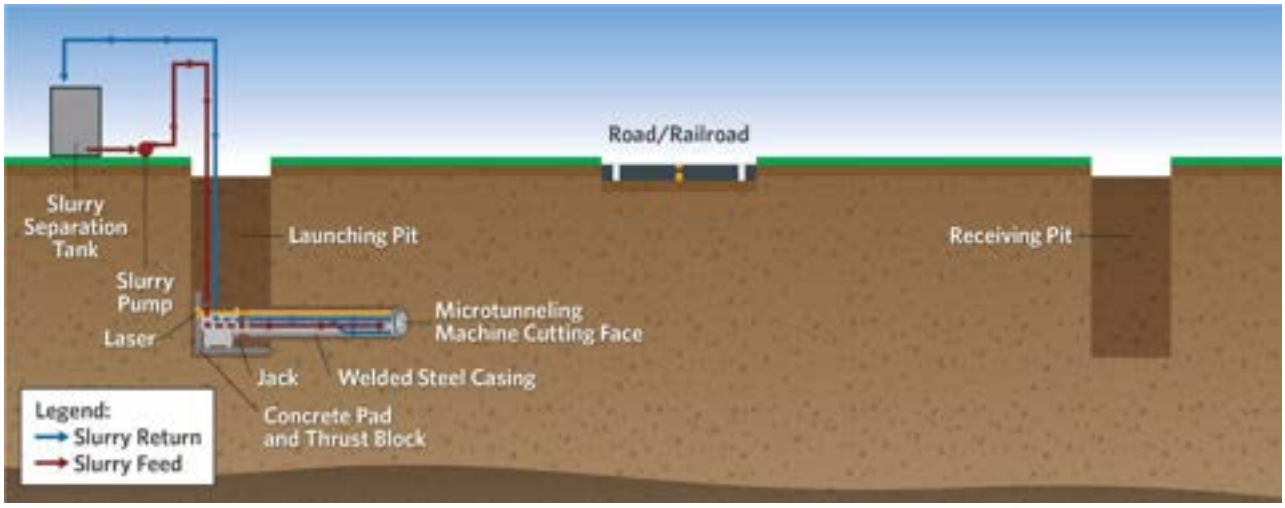

Figure 2-17. Typical Microtunneling Installation

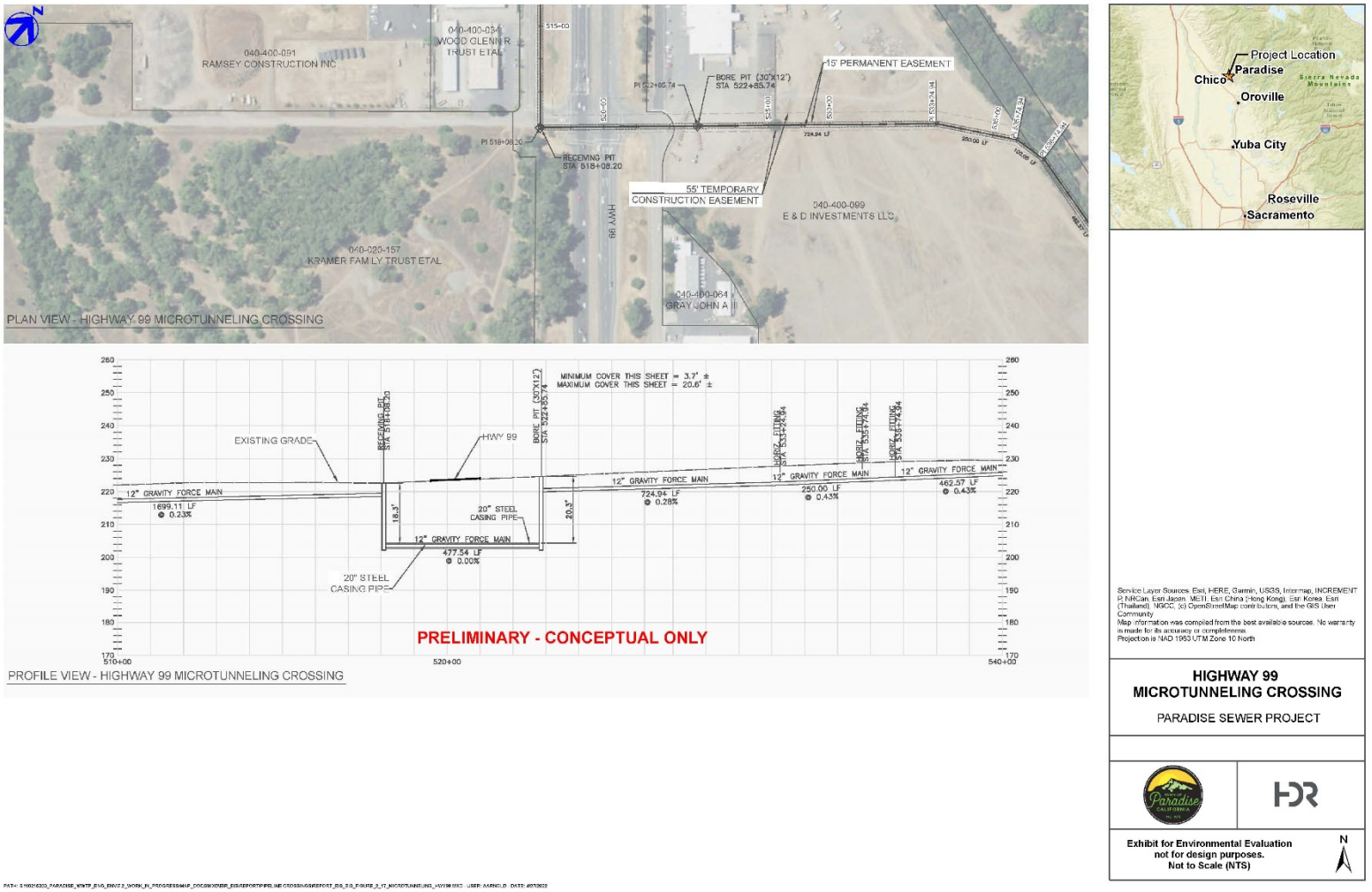

Figure 2-18. State Route 99 Microtunnel Crossing

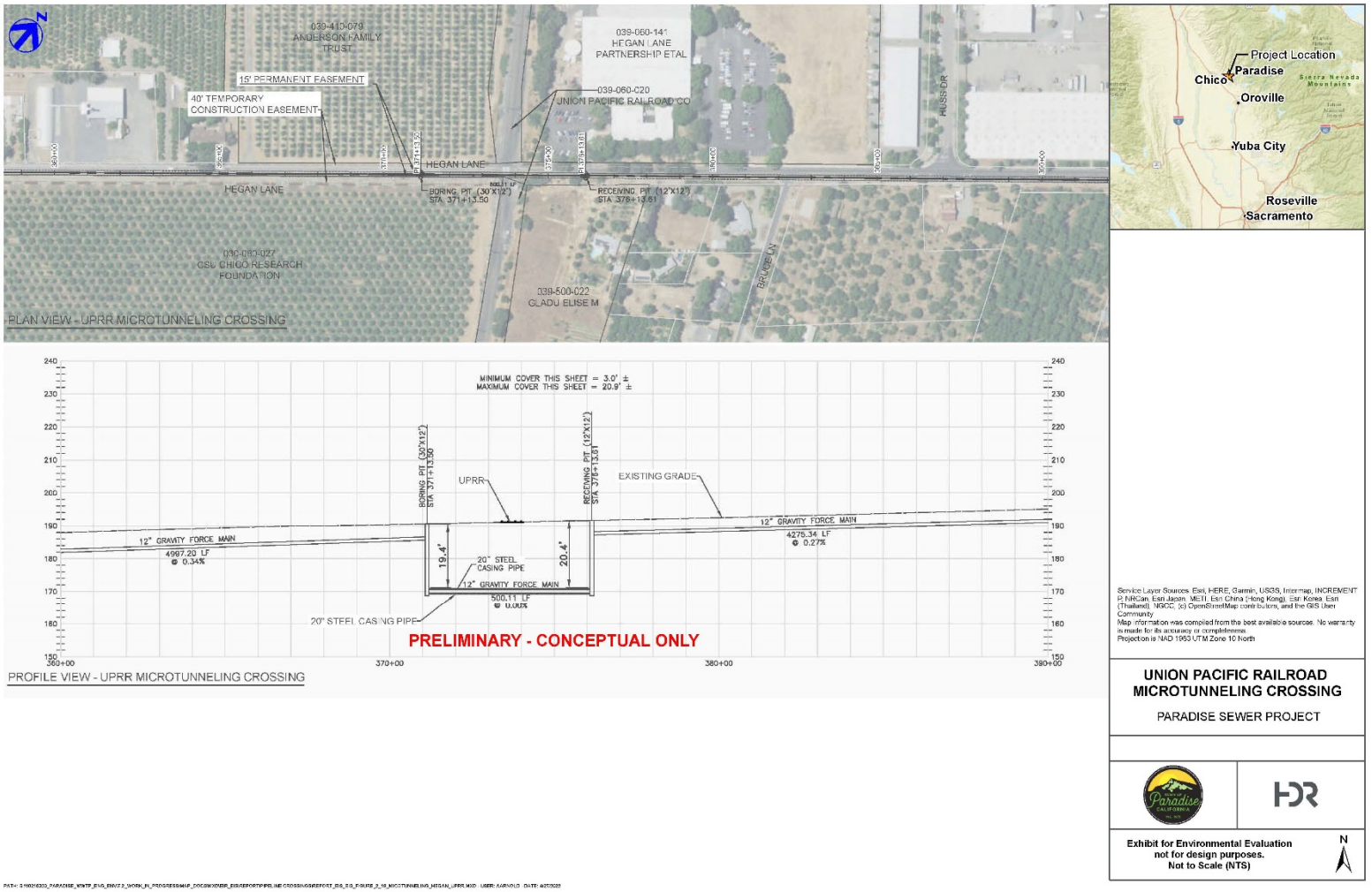

Figure 2-19. UPRR Microtunnel Crossing

Transition Chamber and Flow Control and Metering Structure Construction Methods

At the termination of the Export Pipeline System at the northeastern corner of the Chico WPCP, the Transition Chamber and the Flow Control and Metering Structure would be constructed by excavating an area approximately 35 feet square by 15 feet deep. Backhoes would remove the soil, and equipment would be used to install the structures (assumed to be precast cylinders). The Transition Chamber and the Flow Control and Metering Structure would also involve installation of mechanical and electrical equipment. The excavation would then be backfilled, and the ground surface restored. Excess soil produced by the excavation would be hauled to a local landfill or disposed according to local and state standards. Above-ground access structures and electrical equipment would be required; a photograph of what would be above-ground at a transition chamber is provided in Figure 2-9.

Chico WPCP Connection Construction Methods

The southern end of the Export Pipeline System would be connected to the existing Chico WPCP. All monitoring and electrical equipment required to facilitate the connection would be contained in the Flow Control and Metering Structure. This connection between the Flow Control and Metering Structure and the WPCP would involve drilling a hole in an existing below-ground concrete box at the WPCP facility and connecting the new pipeline.

2.5.2.3 Equipment, Crews, and Materials

The following construction quantities were estimated for the Export Pipeline System (HDR 2022).

Construction Crews and Equipment

Table 2-5 summarizes the construction crew size and equipment types required for Export Pipeline System construction.

Table 2-5. Summary of Construction Crews and Equipment for Export Pipeline System

Crews and Number of Workers Per Crew	Equipment
Asphalt Removal Crew	
1	Sawcutting machine
1	Water truck/trailer
1	Backhoe/loader 95hp, Cat 420
1	Excavator 1.5 cy, 165hp Cat 320
2	Truck tandem 16 cy
1	Skidsteer 80hp
7	**Total Workers**
Small-diameter Pipe Installation Crew	
2	Excavator 1.5 cy, 165hp, Cat 320
1	Loader 170hp, Cat 930
2	Concrete truck
1	Roller compactor, walk behind, 20hp
3	Vibratory plate/jumping jack compactor
2	Truck tandem 16 cy
11	**Total Workers**

Crews and Number of Workers Per Crew	Equipment
Asphalt Replacement Crew	
1	Backhoe/loader 95hp, Cat 420
1	Loader 170hp, Cat 930
1	Skidsteer 80hp
1	Water truck/trailer
1	Asphalt paver 75hp
2	Roller compactor, riding, 25T, 170hp
2	Vibratory plate compactor
2	Truck tandem 16 cy
2	Striping truck
13	**Total Workers**
Structure Installation Crew	
2	Excavator 2.5 cy, 310hp, Cat 336
1	Loader 170hp, Cat 930
1	Roller compactor, walk behind, 20hp
4	Vibratory plate/jumping jack compactor
1	Truck tandem 16 cy
1	Mobile soil-cement mixer, Cement Tech M30, 425hp
1	Excavator 2.5 cy, 310hp, Cat 336
1	Loader 170hp, Cat 930, soil processor bucket
12	**Total Workers**
HDD Crew	
2	Backhoe/loader 95hp, Cat 420
1	Drilling Rig 600–700hp
1	Generator
1	Separator
2	Bentonite pumps
2	Truck tandem 16 cy
9	**Total Workers**
Bore and Jack Crew	
2	Backhoe/loader 95hp, Cat 420
1	Boring machine 600-700hp
1	Generator
1	Separator
2	Truck tandem 16 cy
7	**Total Workers**

Notes: cy = cubic yard; hp = horsepower

Installation of the Export Pipeline System would require multiple crews to be working at the same time. Based on an assumed 18-month construction period, the following is the estimated number of crews working at any given time (HDR 2022):

- Asphalt Removal: 1 crew
- Small-diameter Pipe Installation: 3 crews
- Asphalt Replacement: 1 crew
- Structure Installation: 1 crew
- HDD: 1 crew
- Bore and Jack: 1 crew

Excavated and Fill Materials

The following excavated and fill materials are anticipated on the Export Pipeline System construction (HDR 2022):

- Soil exported: 60,800 cubic yards
- Fill material imported: 22,900 cubic yards

Construction Materials

The following materials are anticipated to be used on the Export Pipeline System construction (HDR 2022):

- PVC pipe and miscellaneous fittings
- Concrete maintenance holes
- Precast concrete cylinders for the Transition Chamber, the Flow Control and Metering Structure, and associated mechanical and electrical equipment for installation at each of the two structures
- Metal carrier pipe at each of the five trenchless crossings
- Temporary and permanent paving (asphalt)
- Backfill material

Estimated Truck Trips

Based on an anticipated 18-month construction period for the Export Pipeline System, an average of 320 round-trip truck trips distributed across an average of 7 crews working at a given time would be generated each working day during construction (HDR 2022). This equates to approximately five trucks per crew per hour, which would be dispersed across multiple locations within the Export Pipeline System construction area. All transport would be completed during daytime hours. Allowable work hours within the County ROW will be defined by an access agreement with general and special conditions that would be issued by the County and included in the County's permission to construct and operate in the ROW. Noise effects are evaluated in Section 3.12.

2.5.2.4 Easement, Encroachment and Access Permission Requirements

The Skyway segment of the Export Pipeline System is located within the County public ROW; therefore, construction would require a construction access agreement with general and special conditions from the County, as well as an ongoing access agreement for maintenance or other similar mechanism.

Once the pipeline alignment departs from Skyway to head towards the Chico WPCP, it would remain within an inactive UPRR rail corridor before bisecting two private parcels, owned by a single landowner; these crossings would require ROW acquisitions from UPRR and the private property owner. The total

length of pipeline that would be on private parcels is approximately 5,700 feet (1.1 miles). For crossing the private parcel, the Town would purchase both permanent and temporary (construction) easements from the parcel owner. The construction easements would provide sufficient space to install the export pipeline as well as for construction vehicles to move across the parcels and reach the public roads, shown in Figure 2-21. The permanent easements would be necessary to allow future access to the pipelines, should maintenance work be required. The pipeline would then cross SR 99, requiring a Caltrans encroachment permit, and finally reconnect to the County public ROW at Entler Avenue (Figure ES-3). The pipeline would follow County public roads to the Chico WPCP, again requiring a County access agreement with general and special conditions. Along this segment, the pipeline makes a trenchless crossing of an active UPRR rail corridor, requiring an additional UPRR encroachment permit. Table 2-6 provides estimates of the dimensions of temporary and permanent easements required for the various Export Pipeline System facilities.

Table 2-6. Approximate and Easement, Encroachment and Access Agreement Requirements for Export Pipeline System

Facilitv	Approximate Permanent Access Permission	Approximate Temporary (Construction) Access Agreement
Pipeline	15 feet wide, along the pipeline	55 feet wide, along the pipeline (includes the 15 feet of permanent easement)
Transition Chamber	35 by 35 feet (fee title)	60 by 60 feet
Flow Control and Metering Structure	25 feet wide by 50 feet long, direction of pipe (fee title or on Chico WPCP site)	75 feet wide by 80 feet long, direction of pipe
HDD Crossing	15 feet wide, along the pipeline	Launching Pit: 75 feet wide by 150 feet long, direction of pipe Receiving Pit: 75 feet wide by 50 feet long, direction of pipe
Microtunnel Crossing	15 feet wide, along the pipeline	Launching Pit: 75 feet wide by 125 feet long, direction of pipe Receiving Pit: 75 feet wide by 100 feet long, direction of pipe

2.5.3 Extended Collection System

As described previously in this document, the Extended Collection System is part of the Proposed Project, but it is still conceptual in definition and the characteristics, timing, and/or locations of the facilities are not available at the time of this PEIR preparation. Therefore, it is being assessed at a programmatic level. Once the Extended Collection System construction is defined, the Town would consider whether subsequent CEQA documentation is required.

The Extended Collection System would be an extension of the Core Collection System that would allow collection of sewage from parcels outside the Core Collection System, within the Town limits. The flow from the Extended Collection System and Core Collection System combined would be limited to the total discharge agreed to between the Town and City, which is currently set at 0.464 mgd, the estimated build-out of the sewer service area (Section 2.2.2). Connection of the Extended Collection System to the Core Collection system leverages the proposed sewer infrastructure to serve additional parcels if the capacity in the system supports this extension. Expanding beyond the Core Collection System or sewer service area would magnify the benefits of reducing private septic systems, maximize use of the Chico WPCP treatment capacity allocated to the Town, and expand on the health and economic benefits to the Town. Further, the addition of the Expanded Collection System moves closer

towards a provision for a regional sewer system, which is a priority of the RWQCB (RWQCB 2020). However, the overall purpose of the Proposed Project is not to serve the entire Town. Areas will continue to exist that are served by the existing District. Instead, the Extended Collection System will provide an opportunity for other property owners within Town limits to connect, particularly those owners with properties near the Core Collection System boundaries that aim to serve higher density uses, such as commercial or multi-family housing. In addition, no portion of the Extended Collection System would extend beyond the Town limits in any case, as presented in Figure ES-2. No sewer service connections would be considered outside the Town and pursuant to the principals of agreement with Chico (Section 1.3.2, Sewer Regionalization Project Advisory Committee Coordination), the project is not designed or intended to serve properties in unincorporated Butte County. Therefore, this PEIR is limited to consideration of physical effects that could result from sewer service connections that would be made within the Town limits.

The Extended Collection System would connect to the Core Collection System along its periphery. The Extended Collection System would consist of 2- to 6-inch-diameter force mains, 8-inch-diameter gravity trunk lines, and additional pump stations. It would likely be constructed as multiple smaller efforts, with geographically similar clusters of parcels within the Town limits being treated as separate individual projects. Other than a single private parcel crossing after leaving Skyway, the pipes would be constructed within existing Town public ROW. The methods and materials used to construct the Extended Collection System would be similar to the Core Collection System (Section 2.5.1). If an Extended Collection System is implemented in the future, it is assumed that similar crew composition and sizes as well as construction equipment would be used, but for shorter durations.

2.6 Proposed Schedule

Construction of the Core Collection System would occur over approximately 22 months, with mobilization beginning in August 2024 and completion by May 2026. The Export Pipeline System would be constructed over an 18-month period beginning in August 2024 and ending in January 2026. Each of these two Proposed Project components would go through their own individual startup periods, to confirm operation of each one individually. Then the entire system, composed of both Proposed Project components, would go through a 2-month system start-up period in June and July 2026, to confirm operation of the entire Proposed Project. Construction of any part of the Extended Collection System would occur following completion of construction of the Core Collection System and Export Pipeline System, and would be expected to occur between 2026 and 2056. Table 2-7 shows the anticipated construction schedule and sequencing for the Core Collection System, Extended Collection System, and Export Pipeline System, broken down by task.

Table 2-7. Construction Schedule for the Proposed Project

Task	Duration	Projected Timeframe
Core Collection System		
Mobilization	8 weeks	August 2024 – October 2024
Gravity Mains and Collectors	1 year, 6 months	October 2024 – March 2026
Force Mains	1 year, 10 months	June 2025 – March 2026
Pump Stations	1 year, 10 months	June 2025 – March 2026

Task	Duration	Projected Timeframe
Testing	8 weeks	March 2026 – May 2026
Startup	2 weeks	May 2026 – May 2026
Extended Collection System		
Design and Construction	Similar durations as above, but defined on project-by-project basis	2026 – 2056
Export Pipeline System		
Mobilization	8 weeks	August 2024 – October 2024
Open Cut Gravity and Force Mains	13 months	October 2024 – October 2025
Transition Chamber	3 months	October 2024 – December 2024
Flow Control and Metering Structure	4 months	December 2024 – March 2025
HDD	4 months	October 2024 – January 2025
• Butte Creek Crossing	8 weeks	October 2024 – November 2024
• Comanche Creek Crossing	8 weeks	November 2024 – December 2024
• Little Chico Creek Crossing	8 weeks	December 2024 – January 2025
Microtunneling (Bore and Jack)	3 months	October 2024 – January 2025
• SR 99 at Southgate	10 weeks	October 2024 – December 2024
• UPRR at Huss Lane	8 weeks	December 2024 – January 2025
Testing	3 months	October 2025 – December 2025
Startup	6 weeks	December 2025 – January 2026
System Start-up and Final Chico WPCP Connection	8 weeks	June 2026 – July 2026

As noted in Section 2.5.1, construction of the gravity sewer mains in the Core Collection System would likely be completed in segments, block by block, or multiple blocks at a time, starting from the downstream end of the system (at the southwestern edge of the Town) and working upstream, based on standard construction methods and gravity sewer installation. Construction of the Core Collection System pump stations and sewer force mains would occur at the same time as the gravity sewers.

Construction of the Export Pipeline System would also likely be divided into segments, with multiple segments under construction at the same time. The connection to the Chico WPCP would occur with Export Pipeline System construction.

The construction schedule assumes that work would occur in line with the noise ordinances of the Town, City, and County, which generally allows daytime work Monday through Saturday, excluding holidays. Noise-generating construction activities located within 1,000 feet of residential uses are further limited to daytime hours between 7:00 a.m. and 6:00 p.m. on weekdays and non-holidays by the *Butte County General Plan 2030* (Butte County 2012). Night work might be needed so as to avoid tunnel failure during microtunneling at the UPRR active rail and SR 99 crossings (Section 2.5.2.2 Construction Methods). Both crossings are in highly disturbed areas, not zoned as residential and no residences are present. At these locations, as discussed in Section 2.5.2.2 Construction Methods, the contractor will be required to obtain a special permit from the County Public Works Department that will be appended to the utility encroachment permit for Proposed Project construction, along with additional conditions. The contractor will be held to all permit conditions.

The Proposed Project within the Core Collection System area would be operational in 2026, with consideration of the Extended Collection System connections through 2057. While the Proposed Project would be in place and able to receive inflow and discharge to the Chico WPCP in 2026, actual sewer flow would be discharged into the pipeline as the private properties connect to it. Initially, it is estimated that the Proposed Project would add 0.109 mgd of wastewater from the Town to the Chico WPCP influent. The full build-out flow of 464,000 gallons per day (0.464 mgd) may not be realized until 2057 or beyond.

2.7 Proposed Staging, Traffic Management, and Access Points

This section describes the proposed locations of temporary staging areas, traffic management and anticipated temporary road closures during construction, and access points and truck routes anticipated during construction.

2.7.1 Potential Staging Areas

As shown in Figure ES-4, up to 11 staging areas for equipment and materials have been identified for potential use by the contractor to maximize access to work areas and store material. These areas have also been selected because they avoid effects on sensitive environmental resources. Because construction would be occurring at the same time on the Core Collection System and the Export Pipeline System, staging areas are considered here for the entire system. Staging areas would have temporary fencing installed to provide a secure storage area and might require minor grading to create a level work surface. No permanent paving would be done. Any unpaved areas temporarily used for construction staging would be returned to their original or better condition. If staging areas are located on public property, encroachment permits would be obtained from the public agency that owns the property. If staging areas are located on private property, temporary construction easements would be acquired from the private property owner.

2.7.2 Traffic Management and Temporary Construction Road Closures

No permanent road closures would result from construction of the Proposed Project. Temporary full road closures are not anticipated; however, could occur, if necessary for public safety, for a short duration (approximately 2-4 hours). For locations where the pipeline is being installed along existing Town or County public ROW, temporary, single-lane road closures with traffic controls around the work areas could occur along the following roads:

- Skyway
- Entler Avenue
- Midway
- Hegan Lane
- Elk Avenue
- Lone Pine Avenue
- Crouch Avenue
- Chico Avenue
- Taffee Avenue
- Chico River Road

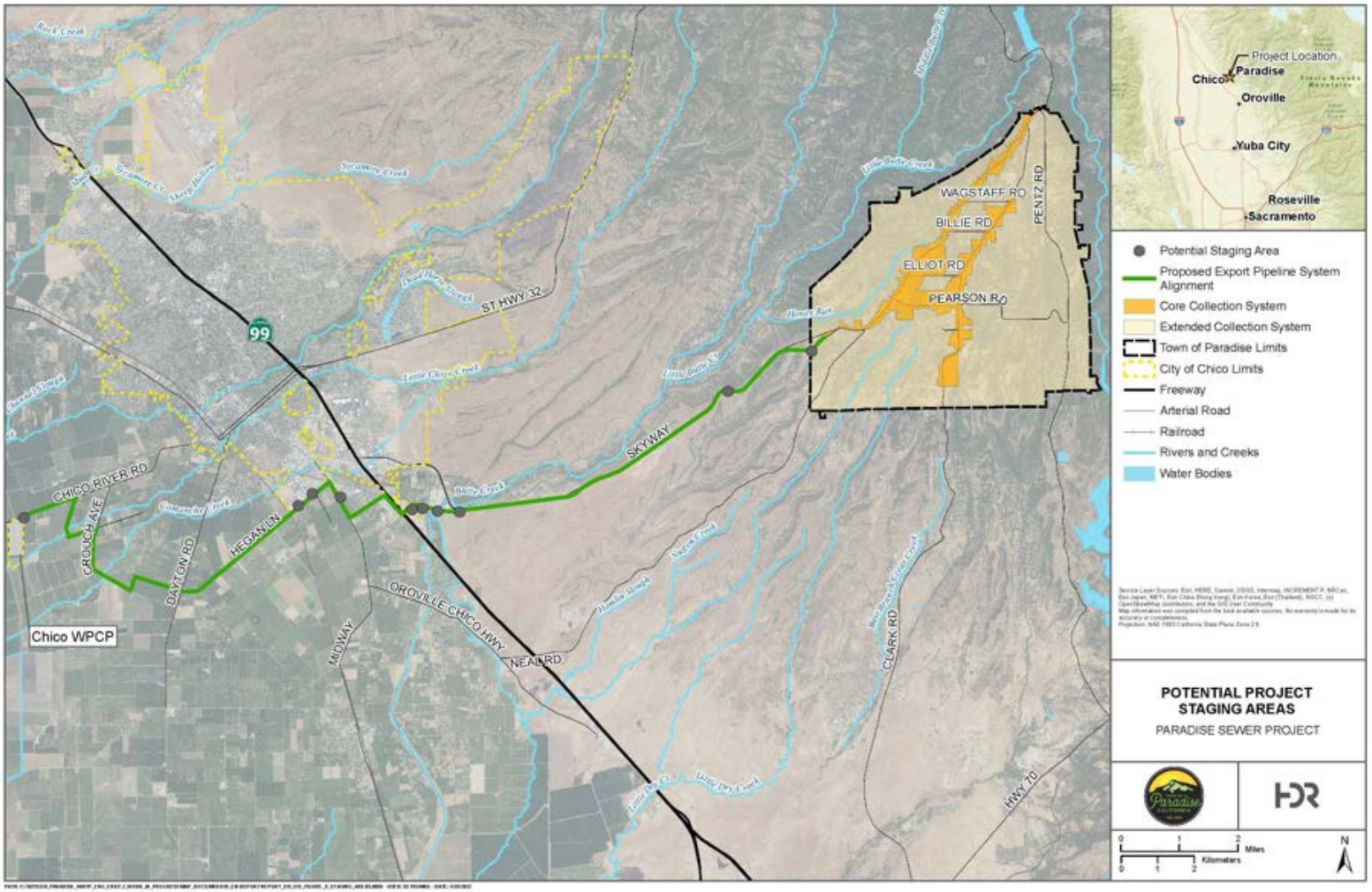

Figure 2-20. Potential Staging Areas

Only the County Public Works Director has the authority to approve road closures on County-maintained roads subject to specific requirements for such road closures. See Section 3.9.4, Impact Analysis (Hazardous Materials) for a description of proposed construction mitigation measures that would be implemented in the event of an emergency evacuation. No road closures are planned within City limits.

2.7.3 Access and Truck Routes

The Export Pipeline System would be primarily constructed within the County public ROW except for approximately 5,700 feet (1.1 miles) of pipeline construction in southern Chico. When the proposed pipeline alignment leaves the Butte County public ROW at Skyway, east of SR 99, it would remain within an inactive UPRR corridor before bisecting two private parcels located within the City limits. See Figure ES-3 for the pipeline route location with the section of proposed crossing of private parcels identified. For crossing the private parcel, the Town would purchase both permanent and temporary (construction) easements from the parcel owner. The construction easements would provide sufficient space to install the export pipeline as well as for construction vehicles to move across the parcels and reach the public roads, shown in Figure 2-21. The permanent easements would be necessary to allow future access to the pipelines, should maintenance work be required (see Table 2-6 for additional information on easement requirements). For all construction, trucks moving equipment in and out, hauling away excess material, and importing material would follow these same routes or remain within public ROW. Trucks hauling loose materials, such as soil and gravel, would be covered to prevent damage to other vehicles.

2.8 Proposed Operation and Maintenance

The Town would own, operate, and maintain the Core Collection System, Export Pipeline System and Extended Collection System. The Town may hire additional staff to handle these operation and maintenance activities. These operations and maintenance staff will need a location for offices and equipment storage. The Town lost its corporation yard during the 2018 Camp Fire and is in the final stages of securing funding to commence rebuilding efforts. At this time, the Town does not have a location set for a new corporation yard, which could be at the old location (933 American Way) or could be at a location yet to be determined. In either case, the Town plans to co-locate at the corporation yard any wastewater operations staff and equipment with the traditional Public Works team and staff. The wastewater operations team would include the following support positions, some of which may be provided by current Town staff: administrative and reception staff, accounting staff, three field crew/utility staff, and one on-site service technician. The existing Public Works director would serve in a management role over sewer functions.

Prior to the start of operations, the Town will adopt applicable ordinances and establish internal administrative procedures to permit and regulate future property owner connections to the Proposed Project.

The Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (Sanitary Sewer Systems General Order, or SSSGO) was adopted by the SWRCB in May 2006. The purpose of the SSSGO was to provide a consistent statewide approach for reducing sanitary sewer overflows

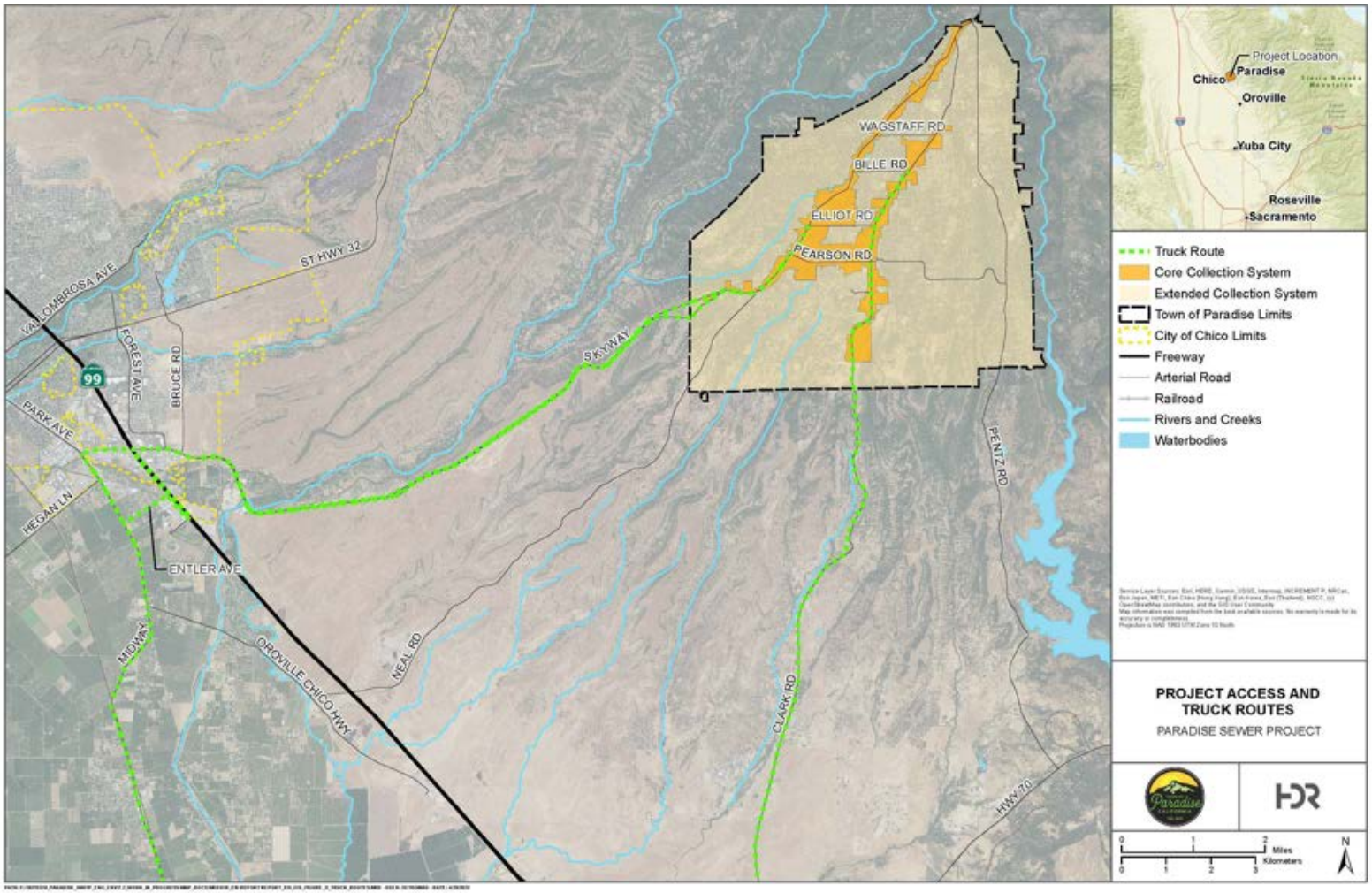

Figure 2-21. Access and Truck Routes

(including leakages). The SSSGO applies to all publicly owned sanitary sewer collection systems in California with more than one mile of sewer pipe. Since the Town's collection system will have more than one mile of sewer pipe, and the Town will own and operate the collection system, the Town will comply with the SSSGO. The RWQCB will oversee the permitting of the Town's collection system under the SSSGO. Per the SSSGO, and subject to its terms, the Town will need to develop a sewer system management plan. The sewer system management plan will include policies, procedures and activities covering the planning, management, operation and maintenance of the collection system. As part of this sewer system management plan, the Town must also develop and implement an overflow emergency response plan to identify measures to protect public health and the environment. Pursuant to the SSSGO, the Town will be required to report sanitary system overflows to the RWQCB using an electronic reporting system. Review and approval by the City and County of the Town's proposed sewer system management plan would be required prior to start of operations.

Further, as previously discussed, the Town and the City will enter into an inter-municipal agreement that will capture the mutually determined details of the connection of the Town's export pipeline to the Chico WPCP and will include system operations and maintenance protocols that will be required by the City. Additionally, the Butte County Department of Public Works will require an access agreement and/or permit with general and special conditions for maintenance of Town facilities located within the County's ROW.

Therefore, review and approval of the Town's proposed operations and maintenance standards and procedures by the RWQCB, the City, and the County (relevant to each one's area of oversight) would be required prior to the start of operations.

Inspection, monitoring, and maintenance procedures that would be included in the Town's sewer system management plan include, but are not limited, to the following. The Town, or other provider, would perform these protocols according to future agreements between the Town and City:

- Inspections of the Core Collection System and the Export Pipeline System would occur one to two times per year, depending on deposition observed within the system. Inspection of pipelines within the system involves use of a camera system and not physical inspection of the pipeline.
- As needed, based upon the results of the camera inspections, the pipelines would be flushed to push deposited material farther down the pipelines to the Chico WPCP. During the early years of service, when flows are low, these flushing activities may need to occur several times per year, then less frequently as flows increase. Flushing is done by sending water through the pipes.
- Physical on-site inspection and maintenance of the air release valves and odor control canisters would be done according to the maintenance protocols that accompany the devices, and would occur every 6 months to ensure optimal performance of these devices. Air release valves would be inspected to ensure they are operating properly. The odor control canisters would be replaced as needed when the carbon media becomes saturated and loses the ability to absorb odors.
- Physical inspection and maintenance of instrumentation would occur monthly according to the maintenance protocols that accompany the instruments. This would include the flow meter, electric-actuated valve, level sensors, and pressure transducers within the transition chamber as well as the flow control and metering structure. This equipment would be replaced approximately every 5 to 10 years.

- Flow data and wastewater samples would be collected from the flow control and metering structure. The flow measurement data would be transmitted continuously via radio or fiber-optic lines; therefore, site visits would not be required to obtain flow measurement data. Wastewater samples would be collected at the structure at a frequency established by agreement with the City and could be as frequently as daily.
- While the Proposed Project components would be designed and constructed to maintain integrity during operations, it is always possible that a pipeline segment could break and result in a leak or overflow, for example during excavations by others near a pipeline. The Export Pipeline System would have pressure gauges in place to help detect the loss of pressure resulting from a break, which in turn would notify the Town Public Works Department that such a break has occurred. As part of the sewer system management plan developed under the SSSGO (see above), the Town would develop a sewer overflow response plan, which would require at a minimum:
    - Proper notification procedures so that the primary responders and the regulatory agencies are informed of all overflows in a timely manner.
    - A program to ensure appropriate response to all overflows.
    - Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the **sewer overflow response plan** and are appropriately trained to do so.
    - Procedures to address emergency operations, such as traffic, crowd control and other necessary response activities.
    - A program to ensure that all reasonable steps are taken to contain untreated wastewater and prevent discharge of untreated wastewater to waters of the US and minimize or correct any adverse impact on the environment.
    - The Town Public Works Department would have on-hand the equipment and spare parts necessary to rapidly implement a repair.
- During any excavations or other work on the pipeline by the Town Public Works Department, the same procedures and standards would apply as described immediately above for pipeline breaks.

2.9 Energy Consumption during Operations

The Proposed Project would use energy for wastewater collection and treatment during operations. The estimated energy demand for the Proposed Project is described in the following subsections; assessment of effects of the use of energy resources can be found in Section 3.6 Energy.

2.9.1 Energy Use of the Core Collection System

The Core Collection System would consist of an arrangement of gravity sewers, small pump stations, and force mains. Gravity sewers use energy resulting from a difference in elevation to remove wastewater, and no electricity is required to move the wastewater along the sewer. Because of the varied topography within the sewer service area, pump stations and pressurized force mains would be required to pump flows out of valleys and other low-lying areas to adjacent gravity sewers. The pump stations would consume electricity to move wastewater to higher elevations. Based on an average flow

of 0.464 mgd and standard pump efficiency, the pump stations would consume approximately 601,000 kilowatt hours per year of electrical energy. Refer to Appendix I Pump Station Energy Consumption Calculation for the energy demand calculations.

2.9.2 Energy Use at Chico WPCP

The annual average flow coming into the Chico WPCP is currently 6.3 mgd (Chico WPCP monitoring data, RWQCB 2021). The Proposed Project would add an additional 0.109 mgd of wastewater to the Chico WPCP influent at the time of initial connection (estimated for 2026) and 0.464 mgd at build-out (estimated for 2057). The Chico WPCP operates a 1.1-megawatt, solar photovoltaic facility that provides electric power to the WPCP, which reduces the plant's use of utility power by approximately 35 percent. Further, an on-site 335-kilowatt co-generator uses methane produced by the plant processes as a fuel source to produce electricity, which is in turn used at the WPCP (City of Chico 2021a). Therefore, energy efficiency and sustainability measures have already been built into the design of the Chico WPCP. While the Proposed Project would increase the amount of energy needed to treat wastewater at the existing Chico WPCP, it would be within current capacity at the time of connection and would not result in an inefficient use of energy.

3. Environmental Impact Analysis

3.1 Introduction

This chapter presents an evaluation of impacts that could result from implementation of the Proposed Project for 18 resource areas. Section 3.1 provides a brief regional environmental setting and overview of the Proposed Project baseline, defines the overall organization of Chapter 3 and explains the general methodology for assessing Project impacts. This section also identifies resource areas that were evaluated and found to have no potential for significant impacts based on the scope and nature of the Proposed Project activities and provides the justification for eliminating them from detailed analysis in this PEIR. Sections 3.2 through 0 describe the environmental setting, regulatory setting, method of analysis, impact analysis, and impact summary for each individual resource area. Section 0 summarizes the environmental impacts of the Proposed Project.

3.1.1 Regional Environmental Setting

As discussed in Section 2.1 Project Location, the Proposed Project is located within Butte County. Butte County is located in north central California at the northern end of the Sacramento Valley, approximately 150 miles northeast of San Francisco and 70 miles north of Sacramento. Butte County adjoins Tehama County to the north and northwest, Plumas County to the east, Glen and Colusa Counties to the west, and Sutter and Yuba Counties to the south and southeast. The Sacramento River and Butte Creek form the western boundary of Butte County, while the South Fork of Honcut Creek forms the southeastern boundary of Butte County.

Elevation in Butte County ranges from approximately 60 feet above sea level in the southwestern corner of the county, adjacent to the Sacramento River, to approximately 8,100 feet above sea level in the northeastern corner of the county, near Butte Meadows. Butte County has three general topographical areas: the valley region, the foothills east of the valley, and the mountain region east of the foothills. The foothill region encompasses a quarter of Butte County's land area. Occupying almost half of the county's land, the valley region is a wide and expansive green plain, neatly divided with hedge rows that protect acres of cropland, nut and fruit orchards, and meadows for livestock grazing. The foothill region includes hillside communities, such as Paradise. The foothill region also includes Feather Falls, the sixth tallest waterfall in the United States, and the Lake Oroville State Recreation Area. The mountain region makes up the remainder of Butte County and encompasses the majority of its eastern border. There is little urban development in this part of the county, and a large amount of the land is state- and federally owned.

This regional setting applies to all of the resource areas discussed in Section 3.2 Agriculture and Forestry Resources through Section 0 Wildfire. In addition, each of the resource sections includes a detailed description of the environmental setting specific to that resource and defines the study area used in the evaluation.

3.1.2 Baseline

In this chapter, the effects of Proposed Project implementation are compared with baseline physical conditions (environmental setting) as described under each resource area. The use of the resource-specific baseline condition provides a basis for assessing the impacts of the Proposed Project in accordance with CEQA requirements. The baseline year for the Proposed Project is 2021 (post-fire conditions), which aligns with the release of the Notice of Preparation for the Proposed Project, which was released on May 3, 2021. The intent is to give the public and decision makers "the most accurate and understandable picture practically possible of the project's likely near-term and long-term impacts" (CEQA Guidelines 15125 (a)).

3.1.3 Structure of the Environmental Impact Analysis

After certain resource areas have been eliminated, as set out in Section 3.1.5 below, this chapter has sections analyzing the following resource areas:

- Section 3.2 Agriculture and Forestry Resources
- Section 3.3 Air Quality
- Section 0 Biological Resources
- Section 0 Cultural Resources
- Section 0 Energy
- Section 0 Geology, Soils, and Paleontological Resources
- Section 3.8 Greenhouse Gas Emissions
- Section 0 Hazards and Hazardous Materials
- Section 0 Hydrology and Water Quality
- Section 0 Land Use and Planning
- Section 0 Noise and Groundborne Vibration
- Section 0 Population and Housing
- Section 0 Public Services
- Section 0 Recreation
- Section 0 Transportation
- Section 0 Tribal Cultural Resources
- Section 0 Utilities and Service Systems
- Section 0 Wildfire

Each resource area analyzed in this chapter includes the following subsections:

- **Environmental Setting:** Provides an overview of the existing physical conditions of an environmental resource in the study area at the time of publication of the NOP that could be affected by implementation of the Proposed Project. Establishing the existing conditions provides a basis of the analysis of potential impacts related to each environmental resource.
- **Regulatory Framework:** Provides an overview of the federal, state, regional, and local laws, regulations, policies, and plans relevant to the analysis of potential impacts related to each environmental resource.

- **Method of Analysis:** Outlines the analysis methodology (quantitative and/or qualitative) for assessing the Proposed Project's potential to impact each resource area. This section also identifies the sources of data used for the analysis and identifies the criteria used to determine the significance of potential impacts.
- **Impact Analysis:** Provides a discussion of impacts associated with implementation of the Proposed Project. For each potential impact, a significance determination is made (that is, no impact, less than significant, less than significant with mitigation, or significant and unavoidable). If required, feasible mitigation measures are identified to reduce significant impacts.
- **Impacts Summary:** A table summarizing the impact significance determinations for each criterion in each resource area.
- **References:** Provides the references relevant to each resource area.

3.1.4 General Methodology for Assessing Impacts

3.1.4.1 Determining Significance under CEQA

Thresholds of significance for each resource were developed consistent with CEQA Guidelines Appendix G to determine the significance of potential impacts. Additionally, the CEQA Guidelines Appendix G checklist was augmented, where necessary, to ensure that all potential impacts of the Proposed Project are addressed.

The environmental review focuses on the potentially significant environmental effects of the Proposed Project. As defined in CEQA Guidelines Section 15382, a "significant effect on the environment" is "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself would not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether a physical change is significant."

In evaluating the significance of the environmental effect of a project, the CEQA Guidelines require the lead agency to consider direct physical changes in the environment and reasonably foreseeable indirect physical changes in the environment that may be caused by the project (CEQA Guidelines Section 15064[d]). A direct physical change in the environment is a physical change in the environment that is caused by, and immediately related to, the project (CEQA Guidelines Section 15064[d][1]). An indirect physical change in the environment is a physical change in the environment that is not immediately related to the project, but that is caused indirectly by the project (CEQA Guidelines Section 15064[d][2]). An indirect physical change is to be considered only if that change is a reasonably foreseeable impact that may be caused by the project (CEQA Guidelines Section 15064[d][3]).

Further, as defined in CEQA Guidelines Section 15064(e), "economic and social changes resulting from a project will not be treated as significant effects on the environment. Economic or social changes may be used, however, to determine that a physical change would be regarded as a significant effect on the environment. Where a physical change is caused by economic or social effects of a project, the

physical change may be regarded as a significant effect in the same manner as any other physical change resulting from the project."

3.1.4.2 Impact Analysis

CEQA requires a lead agency to determine the significance of all environmental impacts (California PRC Section 21082.2; CEQA Guidelines Section 15064). A threshold of significance for a given environmental impact defines the level of effect above which the lead agency will consider impacts to be significant and below which it will consider impacts to be less than significant. Thresholds of significance are identifiable, quantitative, qualitative, or performance levels for a particular environmental effect, whichever is most applicable to each specific type of environmental impact (CEQA Guidelines Section 15064.7[a]). The following terminology is used in this PEIR to describe the various levels and types of environmental impacts associated with the Proposed Project:

- **Significance threshold:** A significance threshold is a criterion used by the Town, as lead agency under CEQA, to determine whether the magnitude of an adverse physical environmental impact would be significant. In accordance with CEQA Guidelines Section 15022(a), the Town used significance criteria that are based on CEQA Guidelines Appendix G and augmented, as necessary; factual and scientific information and data; and the regulatory standards of the federal, state, regional and local jurisdictions (as applicable) where the Proposed Project activities are proposed.
- **No Impact:** No impact indicates that the construction, operation, and maintenance of the Proposed Project would not have a direct or indirect effect on the environment. It means no measurable or observable change from existing conditions would occur. This impact level does not require mitigation.
- **Less than Significant Impact:** An impact is less than significant if the analysis concludes that the implementation of the Proposed Project would not exceed the applicable significance threshold. This impact level does not require mitigation, even if feasible, under CEQA.
- **Significant Impact:** A significant impact is defined by CEQA Section 21068 as one that would cause "a substantial, or potentially substantial adverse change in any of the physical conditions within the area affected by the project." Levels of significance can vary by project, based on the change in the existing physical condition. Under CEQA, mitigation measures or alternatives to the project must be provided, where feasible, to reduce the magnitude of significant impacts.
- **Significant and Unavoidable Impacts:** A significant, unavoidable impact is one that would result in a substantial or potentially substantial adverse effect on the environment, and that could not be justifiably reduced to a less than significant level even with any feasible mitigation. Under CEQA, a project with significant and unavoidable impacts could proceed, but the lead agency would be required to prepare a "statement of overriding considerations" in accordance with CEQA Guidelines Section 15093, explaining why the lead agency would proceed with the project despite the potential for significant impacts.

3.1.4.3 Mitigation Measures

CEQA Guidelines Section 15126.4(a)(1) states that an EIR "will describe feasible measures which could minimize significant adverse impacts." Mitigation measures identified in this PEIR were developed during the analysis and designed to reduce, minimize, or avoid potential environmental impacts

associated with construction, operations, and maintenance of the Proposed Project. Since measures may apply to multiple resource areas, they are labelled by the resource area where they are first defined, so full descriptions can be easily located in this PEIR. Full details for each mitigation measure are provided in the resource section where it is first applied; summaries and a reference to where the details can be found will be included in any subsequent resource section that applies that measure. The description of a mitigation measure states which specific Proposed Project activity the measure applies to.

3.1.5 Impacts Found to Be Not Significant

Resources eliminated from further analysis under CEQA include aesthetics and visual resources as well as mineral resources, for the reasons described below. CEQA Guidelines Appendix G criteria were used to evaluate the potential for effects for both resource areas.

3.1.5.1 Aesthetics and Visual Resources

The aesthetics and visual resources section should include an assessment of the potential for the Proposed Project to have a substantial adverse effect on designated scenic vistas, state scenic highways, and designated scenic resources in an area, such as conservation and open space areas by damage to the viewshed or introduction of new sources of substantial light or glare that would adversely affect views in the area. This also includes the potential to substantially degrading the visual character or quality of public views or conflict with applicable zoning and other regulations governing scenic quality (CEQA Guidelines Appendix G).

Butte County encompasses a number of natural vistas, landscapes, water resources, and scenic byways. Residential zonings are located immediately adjacent to (that is, within viewshed or next to) the Proposed Project study area (Figure 2-1). However, there are no areas designated for resource conservation in the study area nor immediately adjacent to the study area, and the study area does not contain areas designated as scenic vistas by the Caltrans Scenic Route Project (Butte County 2012; Caltrans 2021). Further, the Proposed Project would primarily be constructed below the surface within the public ROW and would only rise to the surface for parcel connections, at pump station locations within the Core and Extended Collection System alignments, at the transition chamber along the Export Pipeline System, and at the flow control and metering structure where the Export Pipeline System terminates at the Chico WPCP (Section 2.5 Proposed Project). The ROW associated with the Core Collection System is owned by the Town and private landowners (Section 2.5.1.4 Easement or Encroachment Requirements [Core Collection System]); the ROW associated with the Export Pipeline System is owned by the County and private landowners (Section 2.5.2.5 Easement or Encroachment Requirements [Export Pipeline System]). Project construction activities would be temporary and would be completed during daylight hours (Section 2.6 Proposed Schedule), outside of microtunneling at the UPRR active rail and SR 99 crossings (Section 2.5.2.2 Construction Methods) when night work could need to be completed so as to avoid tunnel failure. Both crossings are in highly disturbed areas, not zoned as residential and no residences are present. At the microtunneling locations, as discussed in Section 2.5.2.2 Construction Methods, the contractor will be required to obtain a special permit from the County Public Works Department that will be appended to the utility encroachment permit for the Proposed Project along with additional conditions. The contractor will be held to all permit conditions, including those related to lighting restrictions.

Project implementation will include installing permanent motion-detection security lights at above-ground facilities at each pump station within the Core Collection System (Section 2.5.1.1 Location and Description [Core Collection System]), and the Transition Chamber on Skyway (Section 2.5.2.1 Location and Description [Export Pipeline System]). The motion-detection lights would illuminate during maintenance estimated to occur monthly (Section 2.8 Proposed Operation and Maintenance) or if unauthorized access were to occur. These lights will be positioned to point away from residences and species habitats to avoid impacts on the public and wildlife species from light or glare. Because the Proposed Project would not result in a permanent adverse effect on a scenic resources or vista points, it would not change the aesthetic character in the Proposed Project area, and no new substantial sources of light or glare would occur, and no potential to significantly affect aesthetic resources would result from Proposed Project implementation.

3.1.5.2 Mineral Resources

The California Geological Survey produces Mineral Land Classification studies pursuant to the Surface Mining and Reclamation Act. Mineral Land Classification studies help identify areas with potentially important mineral resources that should be considered in local and regional planning. Based on a review of the California Department of Conservation's (DOC) Mineral Land Classification interactive map, the Proposed Project is not located within a Mineral Land Classification study area (DOC 2015a).

The Core and Extended Collection Systems would be located within the Town limits. The Town is not characterized as a heavily mineralized zone, and no current mining operations occur in the Town (Town of Paradise and Quad Consultants 2008). A review of the US Geological Survey's (USGS) Mineral Resources Online Spatial Data indicates that no past or present mineral resources occur within the Core and Extended Collection Systems area (USGS 2021). Therefore, construction, operation, and maintenance of the Core and Extended Collection Systems would result in no impacts to mineral resources

The Export Pipeline System would be located within the City and unincorporated Butte County. No active mines and no known areas with mineral resource deposits are located within the City (City of Chico 2010). Two mineral resource areas are within Butte County: M&T Chico Ranch and Martin Marietta Materials Table Mountain Quarry (Butte County 2010). The Export Pipeline System is not located within or near the mineral resource areas in Butte County.

Past or present mineral resources may occur along the Skyway segment of the Export Pipeline System in unincorporated Butte County (USGS 2021). No past or present mineral resources occur in the areas proposed for HDD and/or microtunneling. However, the Skyway segment of the Export Pipeline System would be constructed underground within the Butte County ROW. Parcels immediately adjacent to the Skyway segment of the Export Pipeline System are located in the Residential, Commercial, Industrial, Agriculture, and Manufacturing/Warehousing land use designations (see Figure 3.11-1 in Section 0 Land Use and Planning). None of the parcels immediately adjacent to the Export Pipeline System are designated for mineral resource conservation or mining and mining is not allowed in any of those zones. Therefore, construction, operation, and maintenance of the Proposed Project would not result in impacts to known mineral resources nor result in the loss of availability of a locally important resource recovery site, resulting in a less-than-significant impact.

3.2 Agriculture and Forestry Resources

This section describes the environmental setting and regulatory framework for agriculture and forestry resources and identifies direct and indirect impacts of the Proposed Project during construction, operation, and maintenance. In particular, the agriculture and forestry resources analysis focuses on prime farmland, unique farmland, farmland of statewide importance, Williamson Act contract parcels, forest land, and timberland in the study area where agriculture and forestry resources are most susceptible to change as a result of the Proposed Project's construction, operation, and maintenance. The study area for agriculture and forestry resources refers to the areas within and directly adjacent to the Town, City, and areas of unincorporated Butte County, where the proposed pipeline alignment runs.

3.2.1 Environmental Setting

3.2.1.1 Regional Setting

Butte County is located in the vast floodplain of the Sacramento River, an area that is particularly amenable to farming (Butte County 2010). Agriculture is the largest land use in Butte County, with the majority of farmland aggregated in the flat, western, rural areas of the County (Butte County 2012). Existing agricultural lands within Butte County include field and row crops, orchards, grazing, dry farming, and timber (Butte County 2010). The DOC's Farmland Mapping and Monitoring Program (FMMP) identifies four classes of farmland in Butte County: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Grazing Land. Refer to Section 3.2.2, Regulatory Framework, for a description of FMMP's farmland classes. Table 3.2-1 summarizes the 2016 FMMP data for Butte County, which is the most recent year for which data is available.

Table 3.2-1. 2016 Farmland Classification in Butte County

Farmland Category	Acres	Percent of Total
Prime Farmland	192,561	30
Farmland of Statewide Importance	21,598	3
Unique Farmland	23,279	4
Farmland of Local Importance	0	0
Grazing Land	400,165	63
Total	**637,603**	**100**

Source: DOC 2016

According to Table 3.2-1, the majority of agricultural land in Butte County is Grazing Land. Grazing Land occurs primarily in the mountain and foothill regions. Prime Farmland is located on the alluvial plain of the Sacramento River in the western portion of the county (Butte County 2010). Small areas classified as Farmland of Statewide Importance and Unique Farmland exist in the central, northwestern, and southwestern portions of the County (Butte County 2010).

Butte County participates in the California Land Conservation Act of 1965 (or Williamson Act) agricultural land preservation program. As of 2017, 1,425 parcels and 210,155 acres of land in Butte County are enrolled in the Williamson Act (Butte County 2021a).

The combination of ample rainfall, a long growing season, and deep soils result in good growing conditions for mixed conifer forest in Butte County (Butte County 2012). These timber resources are primarily located in the northern and eastern portions of the county at elevations between approximately 2,200 and 6,200 feet (Butte County 2012).

3.2.1.2 Local Setting

A review of the Butte County Important Farmland Map of 2018 (DOC 2021b) indicates that both the Town and City are designated as Urban and Built-Up Land. Based on a review of the Butte County Development Services Information interactive GIS map (Butte County 2021b), Williamson Act parcels are not present within the Town and City. No forest land nor timberland zoned parcels are located within the Town and City limits (City of Chico 2020b, Town of Paradise 2021a). No forest resources occur within the Town and City (Google Earth 2022).

3.2.1.3 Project Setting

The Core and Extended Collection Systems would be constructed within the Town limits, primarily within the public ROW. The Export Pipeline System would be primarily constructed within the Butte County public ROW, including the full length of the Skyway segment of the proposed pipeline When the proposed pipeline alignment leaves the Butte County public ROW at Skyway, it would remain within an inactive UPRR corridor before bisecting two privately owned parcels (single owner) located within the City. This would account for approximately 5,700 feet or 1.1 miles of the 18-mile proposed pipeline alignment and would require temporary or permanent easements from the landowner. The two parcels are designated as Urban and Built-Up Land and Other Land, have a zoning of CR – Regional Commercial, and are not enrolled in the Williamson Act (DOC 2021b, City of Chico 2020b, and Butte County 2021b). The proposed pipeline alignment would rejoin the Butte County public ROW at Entler Avenue after crossing SR 99. Continuing westward, the proposed pipeline alignment would remain in the Butte County public ROW and cross an active UPRR corridor until it connects to the Chico WPCP, which is designated as Urban and Built-Up Land (DOC 2021b) and has a land use designation of Public. Figure 3.2-1 shows the farmland classifications within the study area. Figure 3.2-2 shows the Williamson Act parcels within the study area.

A review of aerial imagery and street view images indicates that no forest nor timber resources occur within the study area (Google Earth 2022).

3.2.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on agriculture and forestry resources. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

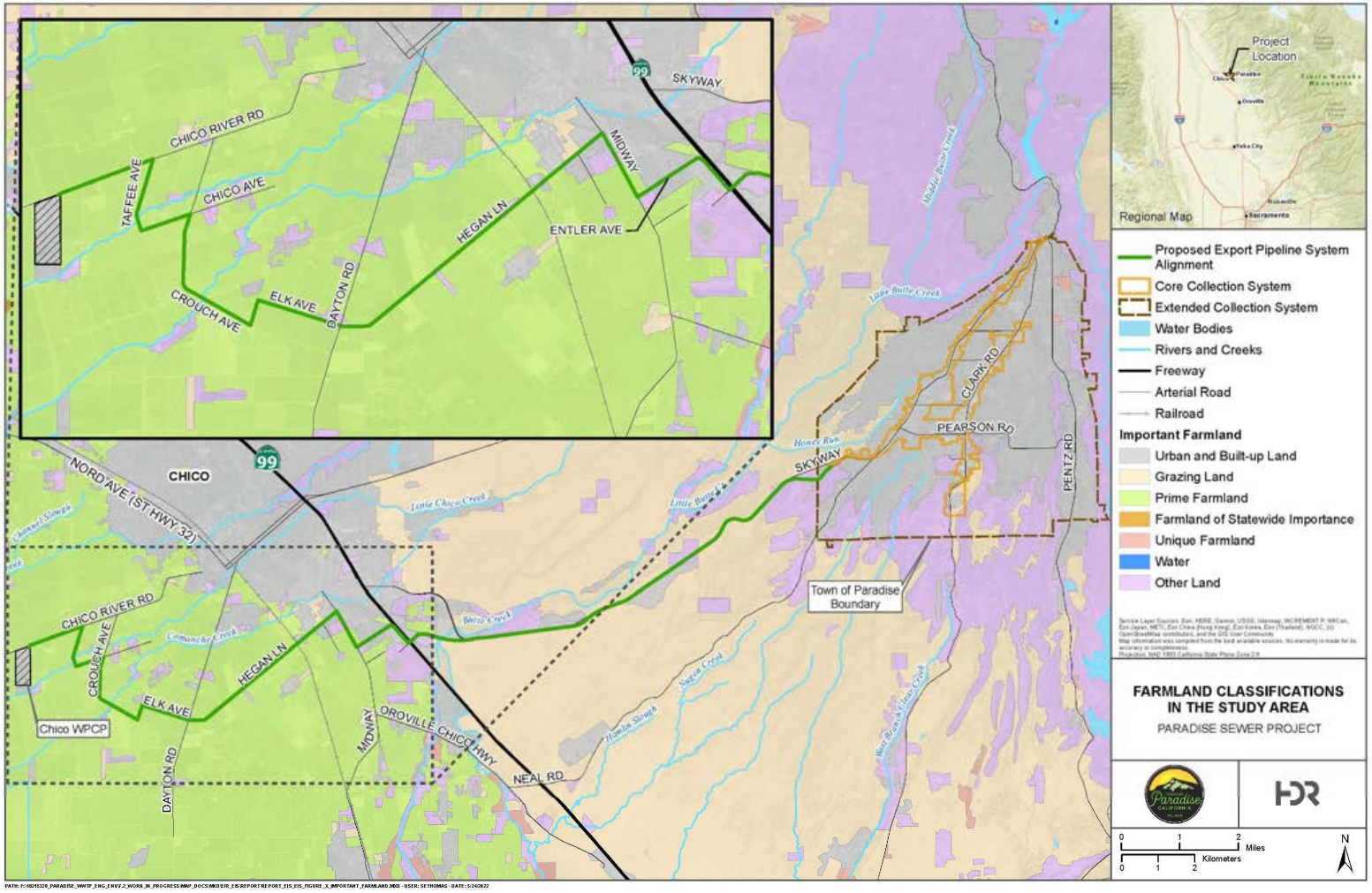

Figure 3.2-1. Farmland Classifications in the Study Area

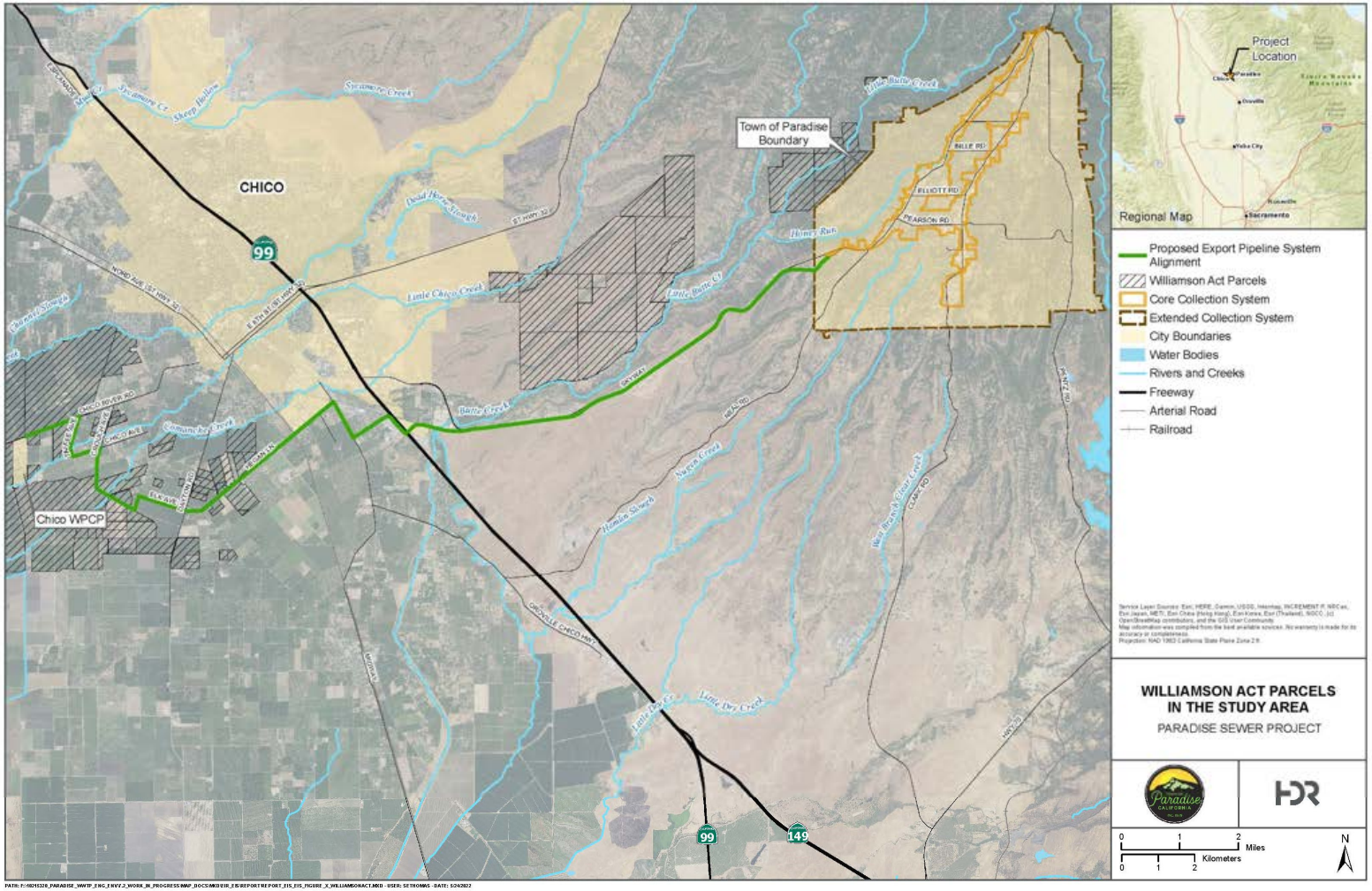

Figure 3.2-2. Williamson Act Parcels in the Study Area

3.2.2.1 Federal

Farmland Protection Policy Act

The Farmland Protection Policy Act is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to non-agricultural uses. The act ensures that federal programs are administered in a manner that is compatible with state, local, and private programs designed to protect farmland. The act does not authorize the federal government to regulate the use of private or non-federal land nor does it, in any way, affect owner property rights. Projects are subject to Farmland Protection Policy Act requirements if they may irreversibly convert farmland (directly or indirectly) to non-agricultural use and are completed by a federal agency or with assistance from a federal agency.

Although considered during the analysis, the Farmland Protection Policy Act would not apply to the Proposed Project because it would not convert farmland to non-agricultural use.

3.2.2.2 State

California Department of Conservation

The DOC provides services and information that promote environmental health, economic vitality, informed land-use decisions, and sound management of the state's natural resources. The DOC administers and supports a number of programs that are designed to preserve agricultural land and provide data on conversion of agricultural land to urban use. These programs include, but are not limited to, the FMMP and the Williamson Act.

The Proposed Project will be held to the programs administered by the DOC.

Farmland Mapping and Monitoring Program

The FMMP produces maps and statistical data used for analyzing impacts on California's agricultural resources. The maps are updated every two years using a computer mapping system, aerial imagery, public review, and field reconnaissance. The following FMMP categories are mapped by the DOC (DOC 2021a):

- **Prime Farmland:** This farmland has the best combination of physical and chemical features able to sustain long-term agricultural production. Prime Farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agriculture production at some time during the 4 years prior to the mapping date.
- **Farmland of Statewide Importance:** This farmland is similar to Prime Farmland, but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- **Unique Farmland:** Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the 4 years prior to the mapping date.

- **Farmland of Local Importance:** Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- **Grazing Land:** Land on which the existing vegetation is suited to the grazing of livestock.
- **Urban and Built-up Land:** Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- **Other Land:** Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines or borrow pits; and waterbodies smaller than 40 acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

The Proposed Project will be held to the categories set forth by the FMMP.

California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, is a non-mandated state program, administered by counties and cities to preserve agricultural land and discourage the premature conversion of agricultural land to urban uses. The act authorizes local governments and property owners to (voluntarily) enter into contracts to commit agricultural land to specified uses for 10 or more years. Once restricted, the land is valued for taxation based on its agricultural income rather than unrestricted market value, resulting in a lower tax rate for owners. In return, the owners guarantee that these properties remain under agricultural production for an initial 10-year period. The contract is renewed automatically unless the owner files a notice of nonrenewal, thereby maintaining a constant 10-year contract.

The Proposed Project will be held to the principles set forth by this act.

Z'berg-Nejedly Forest Practice Act

The Z'berg-Nejedly Forest Practice Act of 1973 established a set of rules known as the Forest Practice Rules to be applied to forest management-related activities (e.g., timber harvests, timberland conversions, fire hazard removal) on privately owned timberlands in California. They are intended to ensure that timber harvesting is conducted in a manner that will preserve and protect fish, wildlife, forests, and streams.

Although considered during the analysis, the Z'berg-Nejedly Forest Practice Act would not apply to the Proposed Project because this area does not include any forest resources nor forest management-related activities.

3.2.2.3 Regional and Local

Town of Paradise General Plan

The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) includes the following policies related to agriculture and forestry resources that are relevant to the Proposed Project:

- **Policy OCEP-31**: Retention of agricultural lands within the Town limits should be encouraged while recognizing that changing circumstances may necessitate a change in use for some lands.
- **Policy OCEP-32**: Significantly important agricultural and timber production lands, particularly those located in the secondary and tertiary planning areas, will be identified and protected from incompatible development.

The Proposed Project will be held to the policies in the *Town of Paradise General Plan*.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following policies related to agriculture and forestry resources that are relevant to the Proposed Project:

- **Policy LU-P13.1**: Maintain the Chico Area Greenline, which will be located as shown on Figure LU-7.
- **Policy LU-P13.3**: Recognize the Chico Area Greenline as the boundary between the "Urban Side of the Chico Area Greenline" and the "Agricultural Side of the Chico Area Greenline."
- **Policy LU-P13.7**: Conserve and protect for agricultural use the lands in the Chico area that are situated on the Agricultural Side of the Chico Area Greenline.
- **Policy COS-P11.3**: Urban development will not limit the financial sustainability of timber operations.
- **Policy COS-P11.6**: Public facilities will generally not be located in the Timber Production Zone if the facility will have a significant adverse effect on the production of timber unless alternative sites for an essential public use cannot be located elsewhere.

The Proposed Project will be held to the policies in the *Butte County General Plan 2030*.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following policies related to agriculture and forestry resources that are relevant to the Proposed Project:

- **Policy OS-5.1, Urban/Rural Boundary**: Protect agriculture by maintaining the Greenline between urban and rural uses.
- **Policy OS-5.2, Agricultural Resources**: Minimize conflicts between urban and agricultural uses by requiring buffers or use restrictions.

The Proposed Project will be held to the policies in the *Chico 2030 General Plan*.

3.2.3 Method of Analysis

This section describes the methods used to analyze impacts on agriculture and forestry resources within the study area.

3.2.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on agriculture if it would:

- **Impact AG-1:** Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- **Impact AG-2:** Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- **Impact AG-3:** Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by California Government Code Section 51104(g)).
- **Impact AG-4:** Result in the loss of forest land or conversion of forest land to non-forest use.
- **Impact AG-5:** 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.

3.2.3.2 Approach to Analysis

Construction, Operation, and Maintenance

Impacts on agriculture and forestry resources were identified qualitatively based on the Proposed Project's potential to affect agricultural lands and timber resources.

A desktop analysis was completed to collect and analyze data in the study area. Aerial imagery and street view images were used to identify the land uses that encompass the study area. Additionally, the following resources were used for data collection:

- Butte County Important Farmland Map of 2018 (DOC 2021b)
- Butte County Development Services Information interactive GIS map (Butte County 2021b)
- City of Chico Zoning Map (City of Chico 2020b)
- Butte County Zoning Map (Butte County 2019a)

The analysis of environmental effects focuses on foreseeable changes to agriculture and forestry resources in the context of effects listed in Section 3.2.3.1 CEQA Significance Criteria. The analysis considers the Core Collection System, Export Pipeline System, and Extended Collection System, as appropriate, in the context of construction, operation, and maintenance.

3.2.4 Impact Analysis

This section describes the potential environmental impacts on agriculture and forestry resources as a result of implementation of the Proposed Project.

3.2.4.1 Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use (No Impact)

Construction, Operation, and Maintenance

The Core and Extended Collection Systems would be located within the Town limits, primarily within the public ROW. Based on a review of the Butte County Important Farmland Map of 2018, Paradise is designated as Urban and Built-Up Land (DOC 2021b).

The Export Pipeline System would be located primarily within the Butte County public ROW. When the proposed pipeline alignment leaves the Butte County public ROW at Skyway, it would remain within an inactive UPRR corridor before bisecting two private parcels located within the City that are designated as Urban and Built-Up Land and Other Land (DOC 2021b). The remaining proposed pipeline alignment would be located within the Butte County public ROW, with a small segment of the pipeline crossing an active UPRR corridor.

Therefore, construction, operation, and maintenance of the Proposed Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use, resulting in no impact.

Mitigation. No mitigation required.

3.2.4.2 Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract (No Impact)

Construction, Operation, and Maintenance

The Core and Extended Collection Systems would be located within the Town limits, primarily within the public ROW. Based on a review of the Butte County Development Services Information interactive GIS map (Butte County 2021b), no Williamson Act parcels are present within the Town.

The Export Pipeline System would be primarily constructed within the Butte County public ROW. When the proposed pipeline alignment leaves the Butte County public ROW at Skyway, it would remain within an inactive UPRR corridor before bisecting two private parcels located within the City limits that have a zoning of CR – Regional Commercial (City of Chico 2020b) and are not enrolled in the Williamson Act (Butte County 2021b). The remaining proposed pipeline alignment would be located within the Butte County public ROW, with a small segment of the pipeline crossing an active UPRR corridor.

Therefore, construction, operation, and maintenance of the Proposed Project would not conflict with existing zoning for agricultural use, or a Williamson Act contract, resulting in no impact.

Mitigation. No mitigation required.

3.2.4.3 Impact AG-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by California Government Code Section 51104(g)) (No Impact)

Construction, Operation, and Maintenance

No lands zoned forest land, timberland, or timberland zoned Timberland Production occur within the study area (City of Chico 2020b, Town of Paradise 2021a, Butte County 2019a). Therefore, construction, operation, and maintenance of the Proposed Project would have no impact on zoning of forest land, timberland, or timberland zoned Timberland Production.

Mitigation. No mitigation required.

3.2.4.4 Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use (No Impact)

Construction, Operation, and Maintenance

A review of aerial imagery and street view images indicates no forest or timber resources occur within the study area (Google Earth 2022). Therefore, construction, operation, and maintenance of the Proposed Project would not result in the loss of forest land nor conversion of forest land to non-forest use, resulting in no impact.

Mitigation. No mitigation required.

3.2.4.5 Impact AG-5: 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 (Less than Significant Impact)

As noted under Impact AG-4, no forest resources occur within the study area.

Construction

The Core and Extended Collection Systems would be constructed primarily within the Town ROW. No farmlands occur within the Town limits (Google Earth 2022).

The Export Pipeline System would be constructed primarily within the Butte County public ROW. No farmlands are adjacent to the Skyway segment of the Export Pipeline System. As the Export Pipeline System leaves the Butte County public ROW at Skyway and until it connects to the Chico WPCP, it would be adjacent to farmlands (Google Earth 2022).

Construction activities associated with the Export Pipeline System have the potential to result in temporary effects involving dust and stormwater runoff at adjacent farmlands (Google Earth 2022). The Proposed Project will be required to implement best practice measures to control fugitive dust emissions. Refer to Section 3.3 Air Quality for information on dust control measures that will be implemented during construction. As part of the Proposed Project, the Town will also be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) that includes best management measures to reduce stormwater runoff. Refer to Section 0 Hydrology and Water Quality for more information on SWPPP that will be implemented during construction. The temporary effects at adjacent farmlands would cease once construction is complete.

Therefore, construction of the Proposed Project would not result in conversion of farmland to non-agricultural use nor conversion of forest land to non-forest use. This is considered a less-than-significant impact.

Mitigation. No mitigation required.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in

Section 2.8. Operation and maintenance activities would be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would not include ground-disturbing activities, except if a pipe broke and a section of pipeline needed to be replaced. In the case of a pipe break, the section will be repaired and returned to previous conditions as expeditiously as possible to limit impacts to the public and sewer service. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads). Operation and maintenance activities, as described in Section 2.8, would not generate excessive dust nor substantially increase stormwater runoff near farmlands due to the infrequency of these activities. Therefore, operation and maintenance of the Proposed Project would not result in conversion of farmland to non-agricultural use nor conversion of forest land to non-forest use. As a result, no impact would occur.

Mitigation. No mitigation required.

3.2.5 Impacts Summary

Table 3.2-2 summarizes the agriculture and forestry resources impacts of the Proposed Project.

Table 3.2-2. Agriculture and Forestry Resources Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use	NI	N/A	NI
Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract	NI	N/A	NI
Impact AG-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by California Government Code Section 51104(g))	NI	N/A	NI
Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use	NI	N/A	NI
Impact AG-5: 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	LTS	N/A	LTS

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

3.2.6 References

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Butte County. 2019a. *Butte County Zoning Map*. April 2019. https://www.buttecounty.net/Portals/10/Docs/Zoning/Zoning_Map_Poster.pdf?ver=2019-04-30-104419-940.

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Town of Paradise and Quad Consultants. 2008. *Town of Paradise 1994 General Plan*. Prepared for Town of Paradise Community Development Department. Amended January 2008. https://www.townofparadise.com/sites/default/files/fileattachments/planning/page/3251/townofparadise-generalplan_1994.pdf.

3.3 Air Quality

This section describes the environmental setting and regulatory framework for air quality, and identifies direct and indirect impacts of the Proposed Project during construction, operation, and maintenance. In particular, the air quality analysis focuses on emissions of criteria air pollutants, toxic air contaminants (TACs), and odors in the study area where air quality is most susceptible to change as a result of the Proposed Project's construction, operation, and maintenance. The study area for air quality is the entire Butte County because this is the area for which the Butte County Air Quality Management District (BCAQMD) has prepared plans for reducing specific types of air emissions, and manages air quality to meet federal and state air quality standards.

3.3.1 Environmental Setting

The Proposed Project is located in Butte County, which is within the Sacramento Valley Air Basin. The Sacramento Valley Air Basin encompasses approximately 14,994 square miles and is bordered on its east, north, and west by the Sierra Nevada, Cascade, and Coast Mountain ranges, respectively (BCAQMD 2014). The 11-county Sacramento Valley Air Basin is divided into two air quality planning areas based on the amount of pollutant transport from one area to the other and the level of emissions within each. Butte County is within the Northern Sacramento Valley Air Basin, which is composed of Butte, Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba Counties (BCAQMD 2014).

3.3.1.1 Climate and Meteorology

Seasonal weather patterns affect regional and local air quality. The Sacramento Valley and Butte County have a Mediterranean climate, characterized by hot, dry summers and cool, wet winters (BCAQMD 2014). Winter weather is governed by cyclonic storms from the North Pacific, while summer weather is typically subject to a high-pressure cell that deflects storms from the region (BCAQMD 2014).

In Butte County, winters are generally mild, with daytime average temperatures in the low 50s°F and nighttime temperatures in the upper 30s°F (BCAQMD 2014). Temperatures range from an average January low of approximately 36°F to an average July high of approximately 96°F, although periodic lower and higher temperatures are common (BCAQMD 2014). Rainfall between October and May averages approximately 26 inches, but varies considerably year to year. Heavy snowfall often occurs in the northeastern mountainous portion of Butte County. Periodic rainstorms contrast with occasional stagnant weather and thick ground, or "tule," fog in the moister, flatter parts of the valley. Winter winds generally come from the south, although north winds also occur.

Diminished air quality within Butte County largely results from local air pollution sources, transport of pollutants into the area from the south, the Northern Sacramento Valley Air Basin topography, prevailing wind patterns, and certain inversion conditions that differ with the season (BCAQMD 2014). During summer, sinking air forms a "lid" over the region, confining pollution within a shallow layer near the ground that leads to photochemical smog and visibility problems. During winter nights, air near the ground cools, while the air above remains relatively warm, resulting in little air movement and localized pollution "hot spots" near emission sources. Carbon monoxide, nitrogen oxides, particulate matters, and

lead particulate concentrations tend to elevate during winter inversion conditions, when little air movement may persist for weeks (BCAQMD 2014).

3.3.1.2 Air Pollutants of Concern

The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxide (NO_X), sulfur dioxide (SO_2), inhalable particulate matter 10 micrometers and smaller (PM_{10}), fine particulate matter 2.5 micrometers and smaller ($PM_{2.5}$), and lead (Pb) are primary air pollutants. ROG and NO_X are criteria pollutant precursors that form secondary criteria air pollutants such as ozone (O_3) through chemical and photochemical reactions in the atmosphere. Each of the primary and secondary criteria air pollutants and its known health effects is described below (US Environmental Protection Agency [USEPA] 2021a).

Carbon Monoxide (CO). CO is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation.

Reactive Organic Gases (ROG). ROG is a reactive chemical gas, composed of hydrocarbon compounds that may contribute to the formation of smog by their involvement in atmospheric chemical reactions. ROGs are emitted from a variety of sources, including liquid and solid fuel combustion, evaporation of organic solvents, and waste disposal. No ambient air quality standards have been established for ROGs.

Nitrogen Oxide (NO_X). NO_X is a by-product of fuel combustion and contributes to the formation of ground-level O_3, PM_{10}, and $PM_{2.5}$. The two major forms of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO_2 produced by combustion is NO, but NO reacts with oxygen quickly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 is a reddish-brown gas that acts as an acute irritant and is more injurious than NO in equal concentrations. NO_2 exposure concentrations near roadways are of concern for susceptible individuals, including people with asthma, children, and the elderly. Short-term NO_2 exposures, ranging from 30 minutes to 24 hours, are known to result in adverse respiratory effects, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma.

Sulfur Dioxide (SO_2). SO_2 is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal as well as from chemical processes at chemical plants and refineries. When SO_2 forms sulfates in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_X). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. Short-term exposures to SO_2, ranging from 5 minutes to 24 hours, are known to

result in adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue.

Particulate Matter (PM_{10} and $PM_{2.5}$). Suspended particulate matter (PM_{10} and $PM_{2.5}$) consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Inhalable coarse particles, or PM_{10}, include particulate matter with a diameter of 10 micrometers or less. Fine particles, or $PM_{2.5}$, have a diameter of 2.5 micrometers or less. Particles that are 10 micrometers in diameter or smaller are of greatest concern because those are the particles that generally pass through the throat and nose, then enter the lungs. Once inhaled, these particles can affect the heart and lungs, and cause serious health effects. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Health effects of particulate matter include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., airway irritation, coughing, difficulty breathing). Particulate matter can also cause environmental effects such as visibility impairment, environmental damage, and aesthetic damage.

Lead (Pb). Pb is a metal found naturally in the environment as well as in manufactured products. The major sources of Pb emissions have historically been mobile and industrial sources. As a result of the USEPA's regulatory efforts to remove Pb from motor vehicle gasoline, levels of Pb in the air decreased by 98 percent between 1980 and 2014. Today, the highest levels of Pb in air are usually found near lead smelters. Depending on the level of exposure, Pb can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Pb exposure also affects the oxygen-carrying capacity of the blood. The most commonly encountered effects of Pb in current populations are neurological effects in children and cardiovascular effects (e.g., high blood pressure, heart disease) in adults.

Ozone (O_3). O_3 is commonly referred to as "smog" and is a gas that is formed when ROGs and NO_X, both by-products of internal combustion engine exhaust, undergo photochemical reactions in the presence of sunlight. O_3 is a secondary criteria air pollutant. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O_3 can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O_3 also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O_3 also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas.

3.3.1.3 Toxic Air Contaminants

California law defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health" (California Air Resources Board [ARB] 2021a). TACs are pollutants that cause or may cause cancer or other serious health effects such as birth defects; neurological and reproductive disorders; or chronic eye, lung, or skin irritation. TACs also may cause adverse environmental and ecological effects. They include such substances as volatile organic compounds; chlorinated hydrocarbons; asbestos; dioxin; toluene; gasoline engine exhaust; particulate matter emitted by diesel engines; and metals such as cadmium, mercury, chromium, and lead compounds, among many others.

Diesel engines emit a complex mixture of pollutants, including very small carbon particles, or "soot" coated with numerous organic compounds, known as diesel particulate matter. Diesel exhaust also contains more than 40 cancer-causing substances, most of which are readily adsorbed onto the soot particles. Diesel engine emissions are responsible for approximately 70 percent of California's estimated cancer risk attributable to TACs (ARB 2021b). In 1998, the ARB identified diesel particulate matter as a TAC.

A primary source of diesel particulate matter emissions is combustion from diesel engines, such as those in trucks and other motor vehicles. Diesel particulate matter is of concern because it is a potential source of both cancer and non-cancer health effects, and because it is present at some concentration in all developed areas of the state. Diesel particulate matter contributes to numerous health impacts that have been attributed to particulate matter exposure, including increased hospital admissions, particularly for heart disease, but also for respiratory illnesses and even premature death.

3.3.1.4 Sensitive Receptors

Sensitive receptors are people that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling units (BCAQMD 2014). The BCAQMD recommends evaluation of sensitive receptors within 1,000 feet of the project parcel(s) (BCAQMD 2014). Several sensitive receptors, including residential dwelling units, schools, nursing homes, hospitals, and day care centers, are found within a 1,000-foot radius buffer surrounding the Proposed Project. The closest sensitive receptors to the Proposed Project are the residential dwelling units along Entler Avenue in the City, which are located within 50 feet of the proposed pipeline alignment (Google Earth 2022). See Figure 3.3-1 for the location of sensitive receptors within a 1,000-foot buffer surrounding the Proposed Project.

3.3.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on air quality. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.3.2.1 Federal

Federal Clean Air Act and National Ambient Air Quality Standards

The Federal Clean Air Act is the primary federal law governing air quality. The Federal Clean Air Act is regulated by the USEPA, which sets standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS have been established for six criteria air pollutants that have been linked to potential health concerns: CO, NO_2, O_3, SO_2, PM_{10}, and $PM_{2.5}$. Additionally, national standards exist for Pb. The NAAQS are set at levels that protect public health with a margin of safety and are subject to periodic review and revision. The Federal Clean Air Act requires USEPA to designate areas as attainment, nonattainment, or maintenance (an area that was previously nonattainment and is currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved.

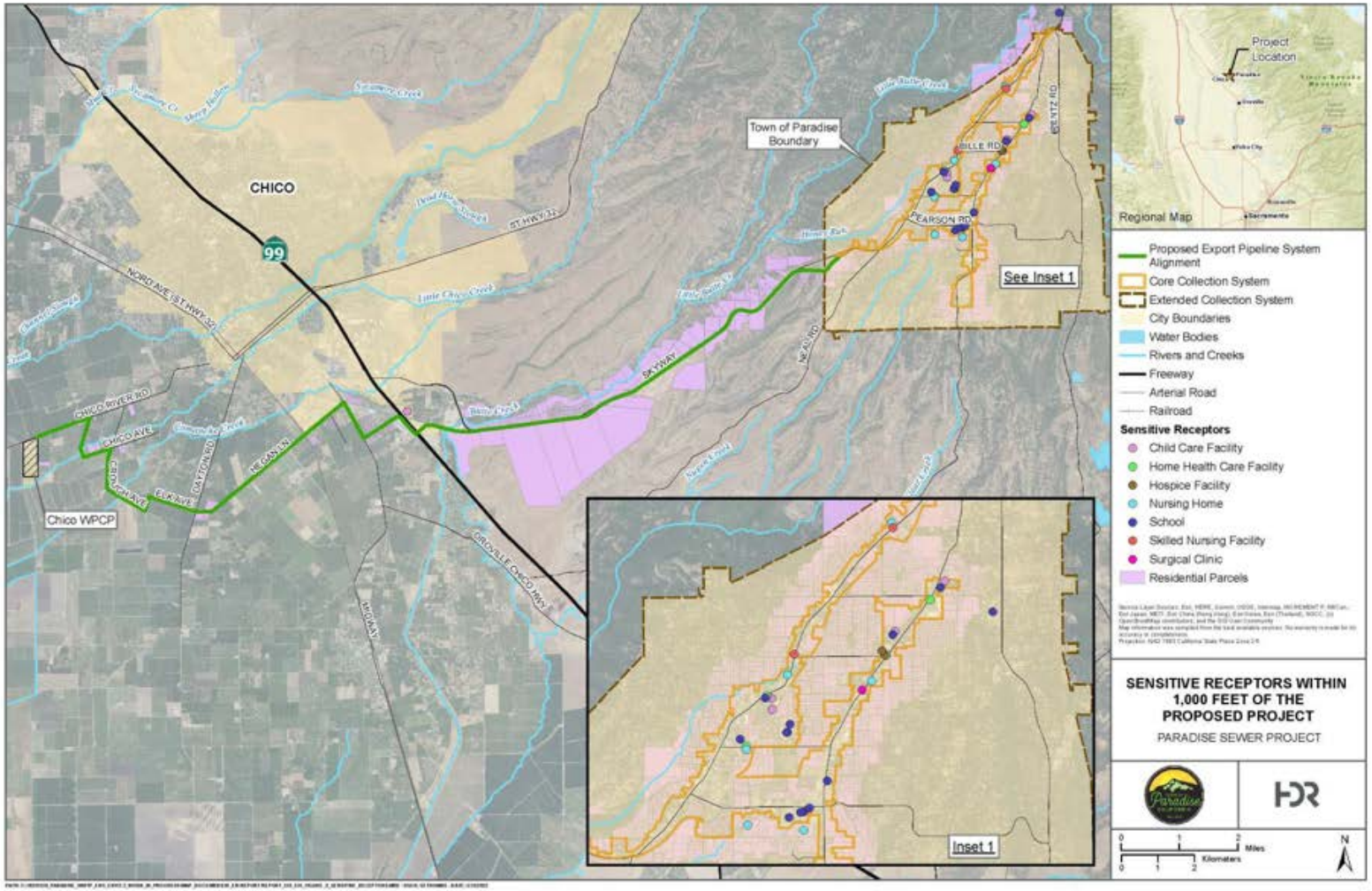

Figure 3.3-1. Sensitive Receptors within 1,000 feet of the Proposed Project

Butte County is designated as nonattainment for national O_3 standards and attainment for all other federal standards (BCAQMD 2018).

The Proposed Project will be held to the NAAQS set forth by the Federal Clean Air Act.

Non-Road Diesel New Engine and Fuel Standards

The USEPA has adopted multiple tiers of emission standards for non-road (or off-road) diesel engines. The non-road standards cover mobile non-road diesel engines of all sizes used in a wide range of construction, agricultural, and industrial equipment. Currently, the most stringent federal standards are Tier 4, which were adopted in 2014. The Tier 4 emissions standards have more stringent NO_X, particulate matter, and hydrocarbon limits than the lower tiers. The CO emission limits for Tier 4 standards remain unchanged from the Tier 2 and Tier 3 standards.

The Proposed Project will be held to these standards.

National Emission Standards for Hazardous Air Pollutants

National Emission Standards for Hazardous Air Pollutants are stationary source standards for hazardous air pollutants. Hazardous air pollutants are those pollutants that are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental effects.

The Proposed Project will be held to these standards.

3.3.2.2 State

California Clean Air Act and California Ambient Air Quality Standards

The ARB is responsible for meeting the state requirements of the Federal Clean Air Act, administering the California Clean Air Act, establishing the California Ambient Air Quality Standards (CAAQS), establishing motor vehicle emissions standards, establishing passenger vehicle fuel specifications, and overseeing the functions of air districts (which, in turn, administer air quality activities at the regional and county levels).

In California, the California Clean Air Act is administered by the ARB at the state level and by the air quality management districts and air pollution control districts at the regional and local levels (air districts). CAAQS are generally more stringent than the corresponding federal standards, and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The California Clean Air Act requires the ARB to designate areas in California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. The California Clean Air Act requires an air quality attainment plan to be prepared for areas designated as nonattainment with regards to the NAAQS and CAAQS. Air quality attainment plans must outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

Butte County is designated as nonattainment for state O_3, PM_{10}, and $PM_{2.5}$ standards, attainment or unclassified for all other state standards (BCAQMD 2018, ARB 2021c).

The Proposed Project will be held to the CAAQS set forth by the California Clean Air Act.

Health Impacts of Regional Criteria Air Pollutants

In December 2018, the California Supreme Court released a decision in *Sierra Club v. County of Fresno*, 6 Cal. 5th 502, also known as the Friant Ranch Case, finding that CEQA requires that a connection be drawn between project emissions and human health impacts.

As explained in the amicus curiae brief submitted by the San Joaquin Valley Air Pollution Control District for the Friant Ranch case, air district significance thresholds were set at emissions levels tied to the region's attainment status; they are emissions levels at which stationary pollution sources permitted by air districts must offset their emissions and CEQA projects must use feasible mitigation measures, and they are not intended to indicate any localized human health impact that a project may have. Therefore, a project's exceedance of the air district's mass regional emission thresholds does not necessarily indicate that the project would cause or contribute to the exposure of sensitive receptors to ground-level concentrations of ozone greater than health-protective levels.

As suggested in the amicus curiae brief submitted for the Friant Ranch case, given the complexity of ozone formation and the current state of environmental science modeling, it is infeasible to determine whether, or the extent to which, a single project's emissions of precursors (NO_X and ROG) would result in the formation of secondary ground-level ozone, and to identify the geographic and temporal distribution of such secondary formed emissions. Furthermore, available models today are designed to determine regional, population-wide health impacts, and cannot accurately quantify ozone-related health impacts caused by project-related NO_X or ROG emissions on the local (project) level. Therefore, it is infeasible to connect ozone precursor emissions at a project level to ozone-related health impacts.

The Proposed Project will be held to the conclusions in the amicus curiae brief submitted for the Friant Ranch Case.

Mobile Source Toxics and Toxic Air Contaminants

California regulates TACs primarily through Assembly Bill (AB) 1807, Toxic Air Contaminant Identification and Control Act (Tanner Act), and AB 2588, Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Hot Spots Act). The Tanner Act sets forth a formal procedure for the ARB to designate substances as TAC and adopt an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate best available toxics control technology to minimize emissions. Under the Hot Spots Act, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

The ARB adopted a comprehensive Diesel Risk Reduction Plan in September 2000 to reduce emissions from both new and existing diesel-fueled engines and vehicles. The ARB has also adopted regulations, known as airborne toxic control measures, to reduce emissions from both on- and off-road heavy-duty diesel vehicles (e.g., construction equipment).

The Proposed Project will be held to the principles set forth by the Tanner Act, Hot Spots Act, Diesel Risk Reduction Plan, and airborne toxic control measures.

3.3.2.3 Regional and Local

Butte County Air Quality Management District

BCAQMD is the air quality regulating authority in Butte County, which is responsible for ensuring that NAAQS and CAAQS are not violated within Butte County. Responsibilities of BCAQMD include monitoring air quality, preparing clean air plans, and responding to citizen complaints concerning air quality.

Air Quality Attainment Plan. The *Northern Sacramento Valley Planning Area 2018 Triennial Air Quality Attainment Plan* (2018 Air Quality Attainment Plan) (Sacramento Valley Air Quality Engineering and Enforcement Professionals 2018) is the latest air quality attainment plan applicable to Butte County. The BCAQMD, along with other air districts in northern Sacramento Valley, prepared the 2018 Air Quality Attainment Plan to build on the previous 2015 triennial air quality attainment plan. The 2018 Air Quality Attainment Plan intended to comply with the requirements of the California Clean Air Act related to bringing the Sacramento Valley Air Basin into compliance with CAAQS for O_3.The 2018 Air Quality Attainment Plan includes an assessment of progress towards achieving the control measure commitments in the previous triennial plan; a summary of the last 3 years of O_3 data; a comparison of the expected versus actual emission reductions for each measure committed to in the previous triennial plan; updated control measure commitments; and updated growth rates of population, industry, and vehicle related emissions.

Regulations and Rules. The BCAQMD develops regulations to improve air quality and protect the health and welfare of Butte County residents and their environment. The following BCAQMD rules and regulations (BCAQMD 2014) are applicable to the Proposed Project:

- **Regulation II, Rule 200, Nuisance:** No person will discharge from any non-vehicular source such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public; endanger the comfort, repose, health, or safety of any such persons or the public; or cause or have a natural tendency to cause injury or damage to business or property.
- **Regulation II, Rule 201, Visible Emissions:** A person will not discharge into the atmosphere from any single source of emission whatsoever, any air contaminant for a period or periods aggregating more than 3 minutes in any 1 hour, which is:
    - As dark or darker in shade as that designated as No. 2 on the Ringelmann Chart, as published by the US Bureau of Mines; or
    - Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described above.
- **Regulation II, Rule 202, Particulate Matter Concentration:** A person will not discharge into the atmosphere from any source particulate matter in excess of 0.3 grains per cubic foot of gas at standard conditions.
- **Regulation II, Rule 205, Fugitive Dust Emissions:** No person will cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area such that: the dust remains visible in the atmosphere beyond the property line of the emission source; or the dust emission exceeds 20% opacity for a period or periods aggregating

more than three (3) minutes in any one (1) hour if the dust emission is the result of movement of a motorized vehicle.

- **Regulation IV, Rule 400, Permit Requirements:** Requires any person constructing, altering, or operating a source that emits or may emit air contaminants to obtain an Authority to Construct or Permit to Operate from the Air Pollution Control Officer, and to provide an orderly procedure for application, review, and authorization of new sources and of the modification and operation of existing sources of air pollution.
- **Regulation IV, Rule 430, State New Source Rule:** Establishes pre-construction review requirements for new and modified stationary sources of air pollution for use of Best Available Control Technology (BACT), offsets, and analysis of air quality impacts, and to ensure that the operation of such sources does not interfere with the attainment or maintenance of ambient air quality standards and complies with all other applicable BCAQMD Rules and Regulations.

CEQA Guidelines. The *CEQA Air Quality Handbook* (BCAQMD 2014) includes analysis requirements for construction and operational emissions. Table 3.3-1 summarizes BCAQMD's thresholds for criteria air pollutants and recommended thresholds for TACs. BCAQMD has established thresholds of significance for criteria air pollutants, while it provides guidance with regards to TACs.

Table 3.3-1. BCAQMD Thresholds of Significance

Pollutant	Construction-related	Operational-Related
ROG	137 lb/day, not to exceed 4.5 tons/year	25 lb/day
NO_X	137 lb/day, not to exceed 4.5 tons/year	25 lb/day
PM_{10}	80 lb/day	80 lb/day
New Source TAC Risk and Hazards – Individual Project	Same as Recommended Operational Thresholds	No Adopted Threshold. Recommended Thresholds: • Increased Cancer Risk > 10 in one million • Increased Non-Cancer Risk of > 1.0 Hazard Index (Chronic or Acute) • Ambient Diesel $PM_{2.5}$ > 0.3 µg/m^3 annual average • Zone of Influence: 1,000-foot radius from parcel(s) of source or receptor
New Source TAC Risk and Hazards – Cumulative Impacts	Same as Recommended Operational Thresholds	No Adopted Threshold. Recommended Thresholds: • Cancer Risk > 10 in a million from all local sources • Non-Cancer Risk > 1.0 Hazard Index (from all local sources – chronic) • Diesel $PM_{2.5}$ > 0.8 µg/m^3 annual average • Zone of Influence: 1,000-foot radius from parcel(s) of sources or receptors

Source: BCAQMD 2014

Notes: ROG = reactive organic gases, NO_X = nitrogen oxides, PM_{10} = particles of 10 micrometers and smaller, $PM_{2.5}$ = particles of 2.5 micrometers and smaller, TAC = toxic air contaminant, lb = pounds, µg/m^3 = micrograms per cubic meter

Odors. Offensive or strong odors may come from a wide variety of temporary and permanent sources, including, but not limited to, wastewater treatment facilities, exhaust from heavy equipment, various industrial processes, landfills, and painting/coating operations.

Pollutants associated with odors such as sulfur compounds and methane can be a nuisance to healthy people and can trigger asthmatic conditions in people with sensitive airways. Given the somewhat subjective nature of human response to odors, BCAQMD does not provide quantitative or formulaic methods to evaluate the presence of an impact. While most odors are highly dispersive, the significance of an odor impact is generally related to its intensity with distance from the source. Table 3.3-2 presents BCAQMD's screening distances for various odors sources.

Table 3.3-2. BCAQMD Screening Levels for Potential Odor Sources

Type of Facility	Screening Distance (miles)
Wastewater Treatment Plant	2
Wastewater Pumping Facilities	1
Sanitary Landfill	1
Transfer Station	1
Composting Facility	2
Petroleum Refinery	2
Asphalt Batch Plant	2
Chemical Manufacturing	1
Fiberglass Manufacturing	1
Painting/Coating Operations	1
Rendering Plant	4
Coffee Roaster	1
Food Processing Facility	1
Feed Lot/Dairy	1
Green Waste and Recycling Operations	2
Metal Smelting Plants	1

Source: BCAQMD 2014

The Proposed Project will be held to the plans, rules, regulations, and thresholds adopted by BCAQMD.

Town of Paradise General Plan

The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) includes the following goals and objectives related to air quality that are relevant to the Proposed Project:

- **Goal CG-5**: Maintain and improve local and regional air quality.
- **Objective OCEO-8**: Comply with the standards, provisions, and objectives of the Butte County Air Quality Attainment Plan.

The Proposed Project will be held to the goals and objectives in the *Town of Paradise General Plan*.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following policies related to air quality that are relevant to the Proposed Project:

- **Policy COS-P5.2**: Developers will implement best available mitigation measures to reduce air pollutant emissions associated with the construction and operation of development projects.

- **Policy COS-P5.6**: New sources of toxic air pollutants will comply with the permitting requirements of the BCAQMD and Section 44300 et seq. of the California Health and Safety Code.

The Proposed Project will be held to the policies in the *Butte County General Plan 2030*.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following policy related to air quality that is relevant to the Proposed Project:

- **Policy OS-4.1, Air Quality Standards**: Work to comply with state and federal ambient air quality standards and to meet mandated annual air quality reduction targets.

The Proposed Project will be held to the policies in the *Chico 2030 General Plan*.

3.3.3 Method of Analysis

This section describes the methods used to analyze impacts on air quality within the study area.

3.3.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on air quality if it would:

- **Impact AIR-1:** Conflict with or obstruct implementation of an applicable air quality plan.
- **Impact AIR-2**: Result in a cumulatively considerable net increase of any criteria pollutant for which the Proposed Project region is nonattainment under an applicable federal or state ambient air quality standard.
- **Impact AIR-3**: Expose sensitive receptors to substantial pollutant concentrations.
- **Impact AIR-4**: Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people.

3.3.3.2 Approach to Analysis

Impacts on air quality were identified qualitatively and quantitively based on the Proposed Project's potential to generate substantial emissions of criteria air pollutants, TACs, and odors.

The analysis of environmental effects focuses on foreseeable changes to air quality in the context of effects listed in Section 3.3.3.1 CEQA Significance Criteria.

Construction

Impacts on air quality during construction of the Proposed Project were analyzed quantitatively. Construction of the Core Collection System, Export Pipeline System, and Extended Collection System would generate criteria air pollutant emissions from the use of construction equipment, haul trucks, and construction labor commute vehicles. Criteria air pollutant emissions associated with construction of the Core Collection System and Export Pipeline System were estimated using the California Emissions Estimator Model (CalEEMod) version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria air pollutant emissions associated with both construction

and operation from a variety of land use projects. Construction emissions were estimated in CalEEMod using a combination of information presented in Chapter 2 and model defaults. The area of disturbance for the Core Collection System presented in Section 2.5.1.1 and Export Pipeline System presented in Section 2.5.2.1 were used as inputs in CalEEMod. The construction schedules for the Core Collection System and Export Pipeline System presented in Section 2.6 were used in CalEEMod. Types and quantities of equipment, construction crew size, excavation and fill quantities, and number of truck trips presented in Sections 2.5.1.3 and 2.5.2.3 were used as inputs to CalEEMod. Criteria air pollutant emissions associated with construction of the Extended Collection System were estimated using comparable measures and assumptions for the Core Collection System. Air quality impacts were determined by comparing the criteria air pollutant emissions generated during construction of the Core Collection System, Export Pipeline System, and Extended Collection System against the BCAQMD thresholds.

Operation and Maintenance

Impacts on air quality during operation and maintenance were assessed qualitatively based on the information in Section 2.8.

3.3.4 Impact Analysis

This section describes the potential environmental impacts on air quality as a result of implementation of the Proposed Project. It includes an analysis of the Proposed Project's potential to conflict with the applicable air quality plan, generate criteria air pollutant emissions, expose sensitive receptors to TAC emissions, and result in odor emissions. The air quality impact analysis focuses on impacts from construction, operation, and maintenance of the Core Collection System, the Export Pipeline System, and the Extended Collection System.

3.3.4.1 Impact AIR-1: Conflict with or obstruct implementation of an applicable air quality plan (Less than Significant Impact)

According to the *CEQA Air Quality Handbook* (BCAQMD 2014), a project conflicts with or obstructs implementation of the applicable air quality attainment plan if it would result in or induce growth in population, employment, land use, or regional vehicle miles traveled (VMT) that is inconsistent with the growth (and therefore the emissions projections) assumptions in the applicable air quality attainment plan. As previously discussed in Section 3.3.2 Regulatory Framework, the 2018 Air Quality Attainment Plan is the latest air quality attainment plan applicable to Butte County.

Construction

As discussed in Section 0 Population and Housing, all construction jobs associated with the Proposed Project would be temporary and would be expected to be filled by the current workforce within the County (Section 4.4 Growth Inducing Impacts). During construction, the Proposed Project would not result in employment growth within the County beyond growth projections presented in the 2018 Air Quality Attainment Plan. Therefore, construction of the Proposed Project would not conflict with or obstruct implementation of the 2018 Air Quality Attainment Plan, resulting a less-than-significant impact.

Mitigation. No mitigation required.

Operation and Maintenance

The Proposed Project is a part of the Town's recovery efforts from the 2018 Camp Fire and would address the need for a municipal wastewater management solution. As a result, operation and maintenance of the Proposed Project could foster population regrowth and economic expansion. As discussed in Section 0 Population and Housing, the Town's population decreased by approximately 83 percent as a result of the 2018 Camp Fire. Any inducement of population growth that might occur as a result of the Proposed Project would therefore be a regrowth and repopulation toward pre-fire levels. Any population growth would be contained in the Town because the proposed sewer system would not extend to other cities or counties, nor benefit populations outside of the Town.

As discussed in Section 0 Population and Housing, approximately 5 to 10 permanent employees would be required to serve the Proposed Project during operations and maintenance, which may be re-assigned from existing staff within the Town or may be additional new staff. The minimal increase in employment during operations and maintenance of the Proposed Project would be consistent with the growth projections in the 2018 Air Quality Attainment Plan. Therefore, operation and maintenance of the Proposed Project would not conflict with or obstruct implementation of the 2018 Air Quality Attainment Plan, resulting in a less-than-significant impact.

Mitigation. No mitigation required.

3.3.4.2 Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (Less than Significant Impact)

Construction

Construction activities associated with the Core Collection System, the Export Pipeline System, and the Extended Collection System would generate criteria air pollutant emissions from the use of construction equipment, haul trucks, and construction labor commute vehicles that would temporarily affect air quality.

Criteria air pollutant emissions generated during construction of the Core Collection System and Export Pipeline System were estimated using CalEEMod. The unmitigated construction criteria air pollutant emissions are summarized in Table 3.3-3. The detailed CalEEMod assumptions and output is included in Appendix D Emissions Modeling. Summaries of equipment, crews, and materials used in the modeling are included in Sections 2.5.1.3 and 2.5.2.4, for the Core Collection System and Export Pipeline System, respectively. The maximum daily emissions generated during construction of the Core Collection System and Export Pipeline System were compared with BCAQMD thresholds to determine significance.

Table 3.3-3. Unmitigated Construction Criteria Air Pollutant Emissions

Year	ROG	NOX	PM10	CO	SO2	PM2.5
	lb/day					
Core Collection System						
2023	11.81	89.41	5.94	114.10	0.24	4.05
2024	14.24	100.75	6.95	140.78	0.32	4.61
2025	13.15	87.06	6.33	137.95	0.32	4.04

Year	ROG	NOX	PM10	CO	SO2	PM2.5
	lb/day					
Export Pipeline System						
2023	9.78	75.26	5.19	105.27	0.25	3.51
2024	5.83	41.65	2.87	57.51	0.12	1.92
Maximum Emissions	**14.24**	**100.75**	**6.95**	**140.78**	**0.32**	**4.61**
BCAQMD Thresholds of Significance	137	137	80	N/A	N/A	80
Exceeds BCAQMD Thresholds?	**No**	**No**	**No**	**N/A**	**N/A**	**No**

Source: CalEEMod Results (Appendix D Emissions Modeling)

Notes: ROG = reactive organic gases, NO_X = nitrogen oxides, PM_{10} = particulate matter 10 micrometers and smaller, CO = carbon monoxide, SO_X = sulfur oxides, $PM_{2.5}$ = particulate matter 2.5 micrometers and smaller, lb = pound, BCAQMD = Butte County Air Quality Management District, N/A = not applicable

As shown in Table 3.3-3, unmitigated maximum daily criteria air pollutant emissions during construction of the Core Collection System and Export Pipeline System would not exceed BCAQMD thresholds for the County for ROG, NO_X, PM_{10}, or $PM_{2.5}$.

The construction methodology for the Extended Collection System would be similar to the Core Collection System. Crews and equipment used for the Extended Collection System would be similar to the Core Collection System, except that the duration would be shorter. The criteria air pollutant emissions generated during construction of the Extended Collection System would be similar to those generated during construction of the Core Collection System. From Table 3.3-3, unmitigated maximum daily criteria air pollutant emissions associated with construction of the Core Collection System would not exceed BCAQMD thresholds. Similar to the Core Collection System, unmitigated maximum daily criteria air pollutant emissions associated with construction of the Extended Collection System would not exceed BCAQMD thresholds.

Although unmitigated PM_{10} and $PM_{2.5}$ emissions are below BCAQMD thresholds, it is mandatory for all construction projects within Butte County to comply with BCAQMD's Rule 200, Nuisance, and Rule 205, Fugitive Dust Emissions. The *CEQA Air Quality Handbook* (BCAQMD 2014) provides best practice measures to minimize fugitive dust during construction. The Proposed Project will implement the following best practice measures required by BCAQMD Rules 200 and 205 to control fugitive dust emissions:

- The amount of the disturbed area will be reduced where possible.
- Water trucks or sprinkler systems will be used in sufficient quantities to prevent airborne dust from leaving the site. An adequate water supply source must be identified. Increased watering frequency will be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water will be used whenever possible.
- All dirt stockpile areas will be sprayed daily as needed, covered, or a BCAQMD-approved alternative method will be used.
- Permanent dust control measures identified in the approved project revegetation and landscape plans will be implemented as soon as possible following completion of any soil disturbing activities.

- Exposed ground areas that will be reworked at dates greater than 1 month after initial grading will be sown with a fast-germinating, non-invasive, grass seed and watered until vegetation is established.
- All disturbed soil areas not subject to re-vegetation will be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by BCAQMD.
- All roadways, driveways, sidewalks, and other facilities to be paved will be completed as soon as possible. In addition, building pads will be laid as soon as possible after grading unless seeding or soil binders are used.
- Vehicle speed for all construction vehicles will not exceed 15 mph on any unpaved surface at the construction site.
- All trucks hauling dirt, sand, soil, or other loose materials will be covered or will maintain at least 2 feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with local regulations.
- Wheel washers will be installed where vehicles enter and exit unpaved roads onto streets, or trucks and equipment leaving the site will be washed.
- Streets will be swept at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water will be used where feasible.
- A sign will be posted in a prominent location visible to the public with the telephone numbers of the contractor and BCAQMD for any questions or concerns about dust from the Proposed Project.

Compliance with the provisions and best practice measures promulgated by Rules 200 and 205 would further reduce fugitive dust emissions of PM_{10} and $PM_{2.5}$.

Based on the discussion above, the Proposed Project would not exceed the BCAQMD thresholds for any criteria air pollutant during construction. Therefore, construction of the Proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which Butte County is in nonattainment under the applicable federal or state ambient air quality standard, resulting in a less-than-significant impact.

Mitigation. No mitigation required.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would generate criteria air pollutant emissions from the use of vehicles. However, criteria air pollutant emissions from operations and maintenance activities would be minimal and immeasurable due to the infrequency of these activities. Therefore, operation and maintenance of the Proposed Project would not result in a cumulatively

considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard, resulting in a less-than-significant impact.

Mitigation. No mitigation required.

3.3.4.3 Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations (Less than Significant Impact)

Figure 3.3-1 shows the location of sensitive receptors within a 1,000-foot radius buffer surrounding the Proposed Project. Several sensitive receptors, including residential dwelling units, schools, nursing homes, hospitals, and daycare centers are found within the 1,000-foot radius surrounding the Proposed Project. The closest sensitive receptors to the Proposed Project are the residential dwelling units along Entler Avenue in the City, which are located within 50 feet of the proposed pipeline alignment (Google Earth 2022).

Construction

Project construction activities have the potential to generate TAC emissions, specifically diesel particulate matter, from the use of diesel equipment that could affect existing sensitive receptors. However, construction activities would be temporary and short-term. Only portions of the Proposed Project area would be disturbed at a given time throughout the construction period, with operation of construction equipment occurring intermittently throughout the course of a day rather than continuously at any one location within the Proposed Project area. Periodic operation of construction equipment would allow for the dispersal of TAC emissions by avoiding continuous construction activity in the portions of the Proposed Project area closest to existing sensitive receptors. All construction equipment and operation thereof will be subject to BCAQMD rules and regulations, including those related to diesel construction equipment. The *CEQA Air Quality Handbook* (BCAQMD 2014) provides best practice measures to minimize diesel particulate matter from construction equipment. The Proposed Project will implement the following BCAQMD best practice measures to reduce diesel particulate matter from construction equipment:

- All on- and off-road diesel equipment will not idle for more than five minutes. Signs will be posted in the designated queuing areas and/or job sites to remind drivers and operators of the 5-minute idling limit.
- Idling, staging, and queuing of diesel equipment within 1,000 feet of sensitive receptors will be prohibited.
- All construction equipment will be maintained in proper tune according to the manufacturer's specifications. Equipment must be checked by a certified mechanic and determined to be running in proper condition before the start of work.
- Diesel particulate filters will be installed or other CARB-verified diesel emission control strategies will be implemented.
- To the extent feasible, truck trips will be scheduled during non-peak hours to reduce peak hour emissions.

Therefore, construction of the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations, resulting in a less-than-significant impact.

Mitigation. No mitigation required.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would generate TAC emissions from vehicle use. However, TAC emissions from operations and maintenance activities would be minimal due to the infrequency of these activities. Therefore, operation and maintenance of the Proposed Project would not expose sensitive receptors to substantial pollutant concentrations, resulting in a less-than-significant impact.

Mitigation. No mitigation required.

3.3.4.4 Impact AIR-4: Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people (Less than Significant Impact)

Construction

Construction of the Proposed Project could result in emissions of odors in the form of diesel exhaust from construction equipment and vehicles. It is anticipated that these odors would be short-term, limited in extent at any given time, and distributed throughout the Proposed Project area during the duration of construction; therefore, they would not affect a substantial number of individuals. Therefore, construction of the Proposed Project would not result in odor emissions adversely affecting a substantial number of people, resulting in a less-than-significant impact.

Mitigation. No mitigation required.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would generate odors from the use of vehicles. However, odors from operations and maintenance activities would be minimal and immeasurable due to the infrequency of these activities (Section 2.8 Proposed Operation and Maintenance), and maintenance vehicles would use roads already being used by other vehicles. Once complete, the Proposed Project would provide an overall odor benefit, because it will replace existing septic tanks within the sewer service area that emit unpleasant odors. Routine operations and

maintenance activities will include periodic inspection of the odor control cannisters, which will be provided at the Export Pipeline System's flow control and metering structure. There would be no change to how the Chico WPCP is managed and operated or how treated water is discharged that might generate new odors. Therefore, operation and maintenance of the Proposed Project would not result in odor emissions adversely affecting a substantial number of people, resulting in no impact.

Mitigation. No mitigation required.

3.3.5 Impacts Summary

Table 3.3-4 summarizes the air quality impacts of the Proposed Project.

Table 3.3-4. Air Quality Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact AIR-1: Conflict with or obstruct implementation of an applicable air quality plan	LTS	N/A	LTS
Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard	LTS	N/A	LTS
Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations	LTS	N/A	LTS
Impact AIR-4: Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people	LTS	N/A	LTS

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

3.3.6 References

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3.4 Biological Resources

This section describes the environmental setting and regulatory framework with regards to biological resources. For the purposes of the biological resources analysis, the study area refers to the areas within the Town and areas of unincorporated Butte County and Chico within the Proposed Project study area, plus a 500-foot buffer. The 500-foot radius buffer was chosen as a reasonable distance from Proposed Project activities to account for dust and other indirect effects that construction could have on adjacent habitats that may occur. Field studies were limited to public roadways. The few locations of the study area that were on private property and could not be accessed were examined, to the greatest extent feasible, using high-powered optical equipment (binoculars and spotting scopes) from public roadways. For the biological resources' habitat assessment, habitat in and within a 0.5-mile buffer of the Proposed Project footprint was also assessed for Swainson's hawk suitability to determine in which portions of the study area protocol surveys for that species should be conducted. The 0.5-mile buffer was based on the Swainson's Hawk Technical Advisory Committee's Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (CDFW 2000).

3.4.1 Environmental Setting

Field studies performed in the study area to date and the total area evaluated for each are listed below. A detailed description of information used to determine how, and to what extent, the Proposed Project may affect special-status species and sensitive natural communities is provided below. Appendix E Vegetation Community Descriptions and Special-Status Species Accounts includes a full description of findings from the field effort, some of which is referenced further in this section.

3.4.1.1 Studies Performed to Date

Literature Review

The following datasets, online maps, and other online resources were reviewed to identify special-status species and their habitats, as well as aquatic resources, with the potential to occur in the study area:

- CDFW California Natural Diversity Database QuickView Tool in BIOS 5 (CDFW 2021a)
- California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants of California* (CNPS 2021)
- Esri World Imagery map (Esri 2021)
- Google Earth Pro mapping service aerial imagery from 2002 through 2022 and street view images (Google Earth 2022)
- National Hydrography Dataset (USGS 2012)
- National Marine Fisheries Service (NMFS), California Species List Tool, Google Earth Application (NMFS 2021)
- Natural Resources Conservation Service (NRCS) Official Soil Series Descriptions of Butte County (NRCS 2021a)
- NRCS Soil Survey Geographic (SSURGO) Database for Butte County, California (NRCS 2021b)
- National Wetlands Inventory map (US Fish and Wildlife Service [USFWS] 2021a)
- USFWS Information for Planning and Consultation (IpaC) system (USFWS 2021b)

- USFWS Critical Habitat Mapper (USFWS 2021c)
- USGS topographical map

A query of the California Natural Diversity Database provided a list of processed and unprocessed occurrences for special-status species in the following California USGS 7.5-minute quadrangles (quads): Paradise East, Paradise West, Cherokee, Hamlin Canyon, Chico, Ord Ferry, Hamilton City, Glenn, Llano Seco, Nelson, Shippee, Oroville, Oroville Dam, Berry Creek, Pulga, Richardson Springs, Nord, Foster Island, Campbell Mound, Cohasset, Stirling City, and Kimshew Point. The Proposed Project intersects the Paradise East, Paradise West, Cherokee, Hamlin Canyon, Chico, and Ord Ferry quads. The remaining quads listed above surround these six quads.

The CNPS *Inventory of Rare and Endangered Plants of California* database was queried to identify special-status plant species that have the potential to occur in all the same quads listed above. The NMFS California Species List Tool on Google Earth was queried to identify special-status fish species, fish critical habitat, and essential fish habitat known to be present in the six quads intersected by the Proposed Project. The USFWS IpaC system was queried to identify federally protected species that have the potential to occur in the study area as well as designated critical habitat. The USFWS Critical Habitat Mapper was queried to determine the location and extent of designated critical habitat in or adjacent to the study area.

Database search results are provided in Appendix E, Attachment 2. A table summarizing the database search results and conclusions regarding the potential for each species to be impacted by Proposed Project-related activities is provided in Appendix E, Attachment 3.

Biological Resources and Habitat Assessment

A biological resources and habitat assessment of the study area was conducted by HDR biologists Kelly Bartron and Dan Williams on February 23-25, 2021. During these assessments, vegetation communities in and within 500 feet of the Proposed Project footprint were characterized and mapped by hand. Habitats were assessed for suitability to special-status species which had been identified through the database queries as having the potential to occur in the study area, and all plant and wildlife species were identified and recorded. As discussed, habitat in and within a 0.5-mile buffer of the Proposed Project footprint was assessed for Swainson's hawk suitability to determine where in the study area protocol surveys for that species should be conducted.

Aquatic Resources Preliminary Assessment

HDR wetland scientists Leslie Parker and Kristin Smith conducted preliminary site visits to assess aquatic resources in the study area on April 2 and 16, 2021. Aquatic resources were assessed in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987); the *Regional Supplement of the Corps of Engineers Wetland Delineation Manual: Arid West Region*, Version 2.0 (Environmental Laboratory 2008); *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Cold Regions Research and Engineering Laboratory 2008); the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region*, Version 2.0 (Environmental Laboratory 2010); and *A Guide to Ordinary High Water Mark (OHWM) Delineation for*

Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States (Cold Regions Research and Engineering Laboratory 2014).

The portions of the study area that were on private land (approximately 5,700 feet or 1.1 miles) away from the public roadway in the City (Section 2.5.2.1 Location and Description) were not accessible at the time of the site visit. Where access to aquatic resources was limited (that is, they could be viewed from a public access road or other public space but could not be walked), data was collected to the greatest level of detail possible. However, much of the aerial extent and other quantitative data as that is included in a standard US Army Corps of Engineers (USACE) wetland delineation could not be mapped or collected on-site. The data gathered in areas with limited access was used to facilitate desktop mapping of aquatic resources in conjunction with recent and historical aerial imagery and other data, as listed above. Where there was no access (i.e., aquatic resources could not be viewed from any vantage point on-site), recent and historical aerial imagery, topographic contours, soils, National Wetlands Inventory data, and National Hydrography Dataset data were reviewed. This information was then used to interpret what are likely the most typical site conditions and aquatic resources were mapped from a desktop. Where accessible, each aquatic resource was mapped on-site using GPS equipment with sub-meter accuracy and all data was collected as required by the USACE wetland delineation manuals described above. All findings for the aquatic resources assessment are preliminary, subject to change, and have not been verified by USACE.

Swainson's Hawk Protocol Surveys and Elderberry Shrub Mapping

Between March 25, 2021, and April 14, 2021, HDR biologist Dan Williams conducted protocol Swainson's hawk surveys in the study area. These surveys were conducted at locations in the study area which were identified during the biological resources and habitat assessment as being suitable for Swainson's hawk. During this effort, the HDR biologist also identified and mapped all elderberry shrubs encountered in the study area. Shrubs that were growing close enough to the public roadway to allow thorough examination, were checked for exit holes, a sign of occupancy by valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). Full methodology and results of the Swainson's hawk surveys and elderberry shrub mapping are presented in Appendix F, Swainson's Hawk Survey and Elderberry Shrub Mapping Report.

3.4.1.2 Regional Setting

The easternmost portion of the study area is within the Southern Cascades Foothills section of the Cascades Ecoregion, and on the western edge of the Northern Sierra Lower Montane Forest section of the Sierra Nevada Ecoregion. Following Skyway to the west, the study area crosses the Tuscan Flows section of the Central California Foothills and Coastal Mountains Ecoregion, and the North Valley Alluvium and Butte Sink/Sutter and Colusa Basins sections of the Central California Valley Ecoregion (Griffith et al. 2016).

The Sierra Nevada Foothills are composed of sedimentary, granitic, volcanic, and ultramafic substrates. Land cover types in this section consist of oak woodland, annual and perennial grasslands, and chaparral and pine forest. Surface water is characterized by streams flowing west into the Sacramento Valley. In addition, reservoirs for municipal water supply, irrigation, and flood control are common. Summers are hot and dry, while winters are mild (McNab et al. 2007).

The Sierra Nevada Foothills section is further subdivided into five subsections, including the Lower Foothills Metamorphic Belt ecological subsection, which includes the study area. This subsection spans the lower elevation western edge of the Sierra Nevada and has a hot and subhumid climate. This subsection is on moderately steep hills and mountains at the western foot of the Sierra Nevada. The predominant vegetative community in this subsection is blue oak woodland, with scattered grassland, chaparral, and valley oak woodland. Several large rivers cross this subsection. All but the largest tributary streams are dry during summer (McNab et al. 2007).

3.4.1.3 Local Setting

The study area is in central Butte County from Paradise in the western Sierra Nevada foothills, west to the Chico WPCP in the northern Sacramento Valley. Topography across the study area transitions gradually from flat in the west to gently rolling with steep canyons adjacent in the east. Elevation in the study area ranges from approximately 135 feet above mean sea level at the Chico WPCP, to approximately 2,320 feet above mean sea level at the highest point of the sewer service area in Paradise.

According to the HUC data provided by NRCS (2018), the study area crosses the following nine hydrologic units:

- Dry Creek (HUC12 180201580401)
- Little Dry Creek (HUC12 180201580403)
- Little Butte Creek (HUC12 180201580201)
- Lake DeSalba-Butte Creek (HUC12 180201580202)
- Hamlin Slough (HUC12 180201580203)
- Dubock Slough-Little Butte Creek (HUC12 180201580204)
- Durham Slough-Butte Creek (HUC12 180201580205)
- Comanche Creek (HUC12 180201580301)
- Little Chico Creek (HUC12 180201580302)

The NRCS Web Soil Survey identifies 17 soil types in the study area, in addition to water (NRCS 2021a). The soil types are well drained, composed predominantly of loam, and include a mix of metamorphic parent materials.

The following sections summarize the onsite vegetation communities, sensitive habitats, movement corridors, and special-status species with the potential to occur in the study area.

3.4.1.4 Non-Sensitive Vegetation Communities

Vegetation communities in the study area were characterized by reviewing CDFW's *California Wildlife Habitat Relationships System* (CDFW 2021b) vegetation community maps and ground-truthing during surveys to refine vegetation mapping. Non-sensitive vegetation communities are those that are not of special concern to resource agencies, or afforded protections under CEQA, Fish and Game Code (FGC) Sections 1600–1603, and/or Clean Water Act (CWA) Section 401 and Section 404. Non-sensitive vegetation communities in the survey area include annual grassland, blue oak woodland, blue oak-foothill pine woodland, cropland, deciduous orchard-vineyard, developed, disturbed/ruderal,

irrigated row and field crops, mixed chaparral, montane hardwood-conifer, non-native woodland, pasture, ponderosa pine, and valley oak woodland. A map set of vegetation communities in the study area can be found in Appendix E, Attachment 1. Descriptions of each vegetation community and common plant and wildlife species associated with them can be found in Appendix E. This section focuses on those communities referenced in the impact analysis.

3.4.1.5 Sensitive Communities

Sensitive communities included are those that are of special concern to resource agencies or those that are protected under CEQA, FGC Sections 1600–1603, and/or CWA Section 401 and Section 404. Of the vegetation communities identified in the study area, only one is considered a sensitive habitat type: valley-foothill riparian. Valley-foothill riparian habitat was identified in the study area along Butte Creek parallel to and west of Skyway, as well as along Comanche Creek and Little Chico Creek. The map set of vegetation communities in Appendix E, Attachment 1 shows the location of valley-foothill riparian habitat in the study area. A description of the valley-foothill riparian sensitive community and common plant and wildlife species associated with it can be found in Appendix E.

Aquatic Resources

Aquatic resources are considered a sensitive habitat type or land cover type because they provide important ecosystem functions to flora, fauna, and their habitat. Some functions include movement corridors, migratory and/or dispersal corridors, foraging habitat, and cover. Further, aquatic resources are capable of protecting surrounding land cover types from large precipitation events that may cause flooding and resulting adverse effects on biological resources. Five types of aquatic resources were identified in the study area: perennial channel, intermittent channel, ephemeral channel, wetland, and ditch. The five types of aquatic resources identified in the study area are listed below along with brief descriptions of them and where in the study area they were identified:

- **Perennial Channel:** Typically flows continuously throughout an average rainfall year, often with the streambed located below the water table for most of the year. Five perennial channels were identified in the Proposed Project area/footprint: Honey Run and unnamed channel in the sewer service area, Butte Creek and Butte Creek Diversion Channel between Paradise and Chico, and Comanche Creek toward the western end of the Proposed Project area/footprint.
- **Intermittent Channel:** Typically, only flows for a portion of the year, often during the wet season. The wet season is typically in the winter and spring during periods of sustained precipitation when the streambed may be below the water table or when snowmelt provides sustained water flow. Other intermittent sources of water may be artificial in which flow regimes are controlled by irrigation systems or other artificial conveyance. Four intermittent channels were identified in the Proposed Project area/footprint: three unnamed intermittent channels are located in the sewer service area, while Little Chico Creek, a dry, sinuous creek with a low to medium gradient stream profile and medium silt to small cobbles in the low-flow portion of its channel, crosses east to west across the west end of the proposed Export Pipeline System route and along the southern boundary of the Chico WPCP.
- **Ephemeral Channel:** Typically, only flows in direct response to, or immediately after, a precipitation event. One ephemeral channel was identified in the sewer service area near Pearson Road and Black Olive Drive.

- **Wetland:** Based on observations of hydric soils, wetland vegetation, and wetland hydrology, several potential wetlands were identified in the Proposed Project area/footprint along Skyway and in the sewer service area. The three types of potential wetlands observed in the Proposed Project area/footprint are vernal pool (especially prevalent along Skyway between Paradise and Chico, scrub-shrub wetland (an isolated depressional area adjacent to Honey Run), and freshwater emergent wetland (two small features in the Extended Collection Area).
- **Ditch:** Conveys stormwater from roads to subsurface storm drains or surface streams. Five roadside ditches were identified in the Proposed Project area/footprint: two along and adjacent to Skyway in the sewer service area, one along Southgate Avenue just west of SR 99, and one along Crouch Avenue near Comanche Creek.

These aquatic resource types are described in greater detail in Appendix E, and the locations in the study area where they were identified are shown in Appendix E, Attachment 1.

Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act requires federal agencies to consult with NMFS on all actions that may adversely affect essential fish habitat. Essential fish habitat has been designated for Chinook salmon in Butte Creek and Little Chico Creek. The designation does not identify specific salmon species or races (for example, spring-run or fall-run); however, Central Valley spring-run Chinook salmon were confirmed present by HDR biologist Dan Williams in the study area in Butte Creek while conducting Swainson's hawk protocol surveys in Spring 2021.

Wildlife Movement Corridors

Wildlife movement corridors refer to established migration routes commonly used by resident and migratory species for passage from one geographic location to another. Corridors are present in a variety of habitats and link otherwise fragmented acres of undisturbed area. Maintaining the continuity of established wildlife corridors is important to (1) sustain species with specific foraging requirements, (2) preserve a species' distribution potential, and (3) retain diversity among many wildlife populations. Therefore, resource agencies consider wildlife corridors to be a sensitive resource.

Available data on movement corridors and linkages was accessed via the CDFW California Natural Diversity Database QuickView Tool in BIOS 5 (CDFW 2021a). Data reviewed included the Essential Connectivity Areas (ds623) layer, the Natural Landscape Blocks [ds621] layer, and the Missing Linkages in California (ds420) layer. A large swath of northern and central Butte County, including much of the study area between Paradise and Chico, is considered Essential Connectivity Area as a great deal of the landscape remains contiguous grassland, oak and pine woodland, and creek riparian corridors. A Natural Landscape Block is present just to the south of Skyway between Paradise and Chico. Additionally, crossing the study area at Skyway between Chico and Tuscan Ridge, is a linkage for small grassland mammals that was identified in the missing linkages layer. Lastly, Butte Creek, Comanche Creek, and Little Chico Creek and their associated riparian corridors are important facilitators of aquatic and terrestrial wildlife movement.

3.4.1.6 Special-Status Species

Candidate, sensitive, or special-status species are commonly characterized as species that are at potential risk or actual risk to their persistence in a given area, or across their native habitat. These

species have been identified and assigned a status ranking by governmental agencies such as CDFW and USFWS, and private organizations such as the CNPS. The degree to which a species is at risk of extinction is the determining factor in the assignment of a status ranking. Some common threats to a species' or population's persistence include habitat loss, degradation, and fragmentation, as well as human conflict and intrusion. For the purposes of this biological review, special-status species are defined by the following codes:

- Listed, proposed, or candidates for listing under the federal Endangered Species Act (50 Code of Federal Regulations Section 17.11 – listed; 61 Federal Register 7591 – candidates)
- Listed or proposed for listing under the California Endangered Species Act (FGC 1992 Section 2050 et seq.; 14 California Code of Regulations Section 670.1 et seq.)
- Designated as Species of Special Concern by CDFW
- Designated as Fully Protected by CDFW (FGC Sections 3511, 4700, 5050, and 5515)
- Species that meet the definition of rare or endangered under CEQA (14 California Code of Regulations Section 15380) including CNPS List Rank 1B and 2.

The results of USFWS, NMFS, CDFW, and CNPS database queries identified 39 special-status plant species and 38 special-status wildlife species with the potential to be impacted by the Proposed Project. A table listing all special-status species identified in the database results is provided in Appendix E, Attachment 3. This table also provides a description of the habitat requirements for each species and conclusions regarding the potential for each species to be impacted by Proposed Project components. In cases where a determination was made that no suitable habitat for a given species is present in the study area, that species is not analyzed further in this document. Descriptions of the habitat requirements and range for each special-status species identified as having the potential to be affected by Project-related activities is provided in Appendix E. Table 3.4-1 summarizes those species and the California Wildlife Habitat Relationship vegetative communities or other habitat or land cover types within the study area that provide suitable habitat for them. California Wildlife Habitat Relationship vegetation communities, other habitats, and land cover types in the study area include the following: habitats or land cover types that are not California Wildlife Habitat Relationship vegetation communities are indicated with an asterisk (*):

- Annual Grassland (AGS)
- Blue Oak-Foothill Pine (BOP)
- Blue Oak Woodland (BOW)
- Cropland (CRP)
- Deciduous Orchard-Vineyard (DOR)
- Developed (DEV)*
- Disturbed/Ruderal (DRD)*
- Irrigated Row and Field Crops (IRF)
- Mixed Chaparral (MCH)
- Montane Hardwood-Conifer (MHC)
- Non-native Woodland (NNW)*
- Pasture (PAS)
- Ponderosa Pine (PPN)

- Valley Oak Woodland (VOW)
- Valley Foothill Riparian (VRI)
- Wetlands and other Aquatic Habitats (WET)*

Table 3.4-1. Special-status Species with the Potential to Occur in the Study Area and their Associated Habitats

Scientific Name	Common Name	USFWS/ NMFS	CDFW	CRPR	Habitat Associations[a]
Plants					
Allium jepsonii	Jepson's onion	None	None	1B.2	BOP, MCH, MHC
Astragalus tener var. ferrisiae	Ferris' milk-vetch	None	None	1B.2	AGS, PAS
Balsamorhiza macrolepis	big-scale balsamroot	None	None	1B.2	AGS, BOP, BOW, MCH, MHC, PAS, PPN, VOW
Brasenia schreberi	watershield	None	None	2B.3	WET
Campylopodiella stenocarpa	flagella-like atractylocarpus	None	None	2B.2	BOP, BOW, DRD, MHC, PPN, VOW
Cardamine pachystigma var. dissectifolia	dissected-leaved toothwort	None	None	1B.2	BOP, BOW, MCH, MHC, PPN
Carex xerophila	chaparral sedge	None	None	1B.2	BOP, BOW, MCH, MHC, PPN
Castilleja rubicundula var. rubicundula	pink creamsacs	None	None	1B.2	AGS, BOP, BOW, MCH, MHC, PAS, PPN, VOW
Clarkia gracilis ssp. Albicaulis	white-stemmed clarkia	None	None	1B.2	BOP, BOW, MCH, MHC, PPN
Clarkia mildrediae ssp. Mildrediae	Mildred's clarkia	None	None	1B.3	BOP, BOW, MHC, PPN
Clarkia mosquinii	Mosquin's clarkia	None	None	1B.1	BAR, BOP, BOW, MHC, MHW, PPN
Cryptantha crinita	silky cryptantha	None	None	1B.2	BOP, BOW, VOW, VRI
Delphinium recurvatum	recurved larkspur	None	None	1B.2	AGS, BOP, BOW, MCH, MHC, PAS, PPN, VRI, VOW
Eremogone cliftonii	Clifton's eremogone	None	None	1B.3	BOP, MCH, MHC, PPN
Eriogonum umbellatum var. ahartii	Ahart's buckwheat	None	None	1B.2	BOP, BOW, MCH, MHC, PPN
Erythranthe filicifolia	fern-leaved monkeyflower	None	None	1B.2	BOP, MCH, MHC, PPN
Euphorbia hooveri	Hoover's spurge	FT	None	1B.2	AGS, PAS, WET
Fritillaria pluriflora	adobe-lily	None	None	1B.2	AGS, BOP, BOW, MCH, MHC, PAS, PPN, VRI, VOW
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	None	None	1B.2	PAS, WET
Imperata brevifolia	California satintail	None	None	2B.1	MCH, MHC, VRI, WET
Juncus leiospermus var. leiospermus	Red Bluff dwarf rush	None	None	1B.1	AGS, BOP, BOW, MCH, MHC, PAS, PPN, VRI, VOW, WET
Layia septentrionalis	Colusa layia	None	None	1B.2	AGS, BOP, BOW, MCH, MHC, PAS, PPN, VOW
Lewisia cantelovii	Cantelow's lewisia	None	None	1B.2	BOP, BOW, MCH, MHC, PPN
Limnanthes 115mission ssp. Californica	Butte County meadowfoam	FE	SE	1B.1	AGS, PAS, WET

Scientific Name	Common Name	USFWS/ NMFS	CDFW	CRPR	Habitat Associations[a]
Monardella venosa	veiny monardella	None	None	1B.1	AGS, BOP, BOW, MHC, PAS, PPN, VOW
Orcuttia pilosa	hairy Orcutt grass	FE	SE	1B.1	AGS, PAS, WET
Packera eurycephala var. lewisrosei	Lewis Rose's ragwort	None	None	1B.2	BOP, BOW, MCH, MHC, PPN, VOW
Paronychia ahartii	Ahart's paronychia	None	None	1B.1	AGS, BOP, BOW, MHC, PAS, PPN, VRI, VOW, WET
Poa sierrae	Sierra blue grass	None	None	1B.3	BOP, MHC, PPN
Rhynchospora californica	California beaked-rush	None	None	1B.1	BOP, MHC, MRI, PPN, VRI, WET
Rhynchospora capitellata	brownish beaked-rush	None	None	2B.2	BOP, MHC, MRI, PPN, VRI, WET
Rupertia hallii	Hall's rupertia	None	None	1B.2	BOP, BOW, DRD, MHC, PPN
Sagittaria sanfordii	Sanford's arrowhead	None	None	1B.2	WET
Sedum albomarginatum	Feather River stonecrop	None	None	1B.2	BOP, MCH, MHC, PPN
Sidalcea robusta	Butte County checkerbloom	None	None	1B.2	BOP, BOW, MCH, MHC, PPN
Stuckenia filiformis ssp. Alpina	slender-leaved pondweed	None	None	2B.2	WET
Trifolium jokerstii	Butte County golden clover	None	None	1B.2	AGS, PAS, WET
Tuctoria greenei	Greene's tuctoria	FE	SR	1B.1	AGS, PAS, WET
Wolffia brasiliensis	Brazilian watermeal	None	None	2B.3	WET
Invertebrates					
Bombus crotchii	Crotch bumble bee	None	SCE	---	AGS, MCH
Bombus occidentalis	western bumble bee	None	SCE	---	AGS, DEV, DRD, MCH
Branchinecta conservatio	Conservancy fairy shrimp	FE	None	---	AGS, PAS, WET
Branchinecta lynchi	vernal pool fairy shrimp	FT	None	---	AGS, PAS, WET
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT	None	---	AGS, VRI
Lepidurus packardi	vernal pool tadpole shrimp	FE	None	---	AGS, PAS, WET
Fish					
Cottus gulosus	riffle sculpin	None	None	---	WET
Mylopharodon conocephalus	hardhead	None	SSC	---	WET
Oncorhynchus mykiss irideus (pop. 11)	steelhead (Central Valley Distinct Population Segment)	FT	None	---	WET
Oncorhynchus tshawytscha (pop. 6)	chinook salmon (Central Valley spring-run Evolutionary Significant Unit)	FT	ST	---	WET
Amphibians					
Rana boylii	foothill yellow-legged frog	None	None	—	VRI, WET

Scientific Name	Common Name	USFWS/ NMFS	CDFW	CRPR	Habitat Associations[a]
Rana draytonii	California red-legged frog	FT	SSC	—	AGS, MCH, MHC, PPN, WET
Spea hammondii	western spadefoot	None	SSC	---	AGS, BOP, BOW, PAS, WET
Reptiles					
Actinemys marmorata	western pond turtle	None	SSC	---	VRI, WET
Phrynosoma blainvillii	Blainville's horned lizard	None	SSC	---	AGS, BOP, BOW, MCH, MHC, PPN, VRI, VOW
Thamnophis gigas	giant garter snake	FT	ST	---	IRF, VRI
Birds					
Accipiter gentilis	northern goshawk	None	SSC	—	BOP, PPN
Agelaius tricolor	tricolored blackbird	None	ST, SSC	---	AGS, CRP, PAS, VRI
Aquila chrysaetos	golden eagle	None	SFP	—	AGS, BOP, MHC, PAS
Antigone canadensis tabida	greater sandhill crane	None	ST, SFP	—	AGS, CRP, IRF, PAS
Asio otus	long-eared owl	None	SSC	—	BOP, MHC, PPN, VRI
Athene cunicularia	burrowing owl	None	SSC	---	AGS, CRP, DRD, IRF, PAS
Buteo swainsoni	Swainson's hawk	None	ST	---	AGS, BOW, CRP, DRD, PAS, VRI, VOW
Circus hudsonius	northern harrier	None	SSC	---	AGS, CRP, IRF, PAS, WET
Elanus leucurus	white-tailed kite	None	SFP	—	AGS, BOP, BOW, CRP, PAS, VRI, VOW
Falco peregrinus anatum	American peregrine falcon	None	SFP	---	BOP, DEV, MHC, PPN
Haliaeetus leucocephalus	bald eagle	None	SE	—	MHC, PPN, VRI, WET
Icteria virens	yellow-breasted chat	None	SSC	---	VRI
Lanius ludovicianus	loggerhead shrike	None	SSC	---	AGS, BOW, CRP, PAS, VOW
Laterallus jamaicensis coturniculus	California black rail	None	ST, SFP	---	PAS, WET
Progne subis	purple martin	None	SSC	---	MHC, VRI
Setophaga petechia	yellow warbler	None	SSC	—	MHC, VRI
Strix occidentalis	California spotted owl	None	SSC	—	MHC, PPN
Mammals					
Antrozous pallidus	pallid bat	None	SSC	—	AGS, BOP, BOW, DEV, MCH, MHC, PPN, VRI, VOW
Corynorhinus townsendii	Townsend's big-eared bat	None	SSC	—	AGS, BOP, BOW, DEV, MCH, MHC, PPN, VRI, VOW
Eumops perotis	western mastiff bat	None	SSC	—	AGS, BOP, BOW, DEV, MCH, MHC, PPN, VOW
Lasiurus blossevillii	western red bat	None	SSC	---	AGS, BOP, BOW, DEV, MCH, MHC, PPN, VRI, VOW
Taxidea taxus	American badger	None	SSC	—	AGS, BOP, MCH

[a] Associations are derived from detailed habitat description in species table (Appendix E, Attachment 3).

Habitat acronyms are defined in text above. *Habitat is not a California Wildlife Habitat Relationship vegetation community.

Notes: FE = federal endangered; FT = federal threatened; FC = federal candidate; SE = state endangered; ST = state threatened; FP = fully protected; SSC = species of special concern; SR = state rare; CRPR = California Rare Plant Rank; 1B = plants rare, threatened, or endangered in California and elsewhere; 2B = plants rare, threatened, or endangered in California, but more common elsewhere

3.4.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on biological resources. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.4.2.1 Federal

Endangered Species Act

The Endangered Species Act provides protective measures for federally listed threatened and endangered species, including their habitats, from unlawful take (16 United States Code [USC] Sections 1531–1544).

Endangered Species Act Section 7(a)(1) requires federal agencies to use their authority to further the conservation of listed species. Endangered Species Act Section 7(a)(2) requires consultation with the USFWS or the NMFS if a federal agency undertakes, funds, permits, or authorizes any action that may impact endangered or threatened species or designated critical habitat. For projects that may result in the incidental take of threatened or endangered species, or critical habitat, and that lack a federal nexus, a Section 10(a)(1)(b) incidental take permit may be obtained from USFWS and/or NMFS.

The Proposed Project will be held to the requirement under the Endangered Species Act.

Clean Water Act

The Federal Water Pollution Control Act of 1948 was the first major United States law to address water pollution. Upon sweeping amendments made in 1972, the law became commonly known as the CWA (33 USC Section 1251). The CWA established the structure for regulating discharge of pollutants into waters of the United States and regulating quality standards for surface waters.

CWA Section 404 (33 USC Section 1344) enables regulation of the discharge of dredged or fill material into waters of the United States, including wetlands. To comply with CWA Section 404, a permittee must document the measures taken to avoid and minimize impacts on waters of the United States and provide compensatory mitigation for any unavoidable impacts.

Under CWA Section 401 (33 USC Section 1341), federal agencies are not authorized to issue a permit or license for any activity that may result in discharges to waters of the United States, unless a state or tribe where the discharge originates either grants, waives or denies CWA Section 401 certification. Decisions made by states or tribes are based on the proposed project's compliance with USEPA water quality standards as well as applicable effluent limitations guidelines, new source performance standards, toxic pollutant restrictions, and any other appropriate requirements of state or tribal law. In California, the SWRCB is the primary regulatory authority for CWA Section 401 requirements.

The Proposed Project will be held to the permitting requirements under this act.

Section 14 of the Rivers and Harbors Appropriation Act of 1899, Section 408

Under Section 408 (33 USC Section 408), any use or alteration of a Civil Works project is subject to the approval of USACE. This requirement was established in Section 14 of the Rivers and Harbors Act of 1899. Section 408 provides that USACE may grant permission for another party to alter a Civil Works project upon a determination that the alteration proposed will not be injurious to the public interest and will not impair the usefulness of the Civil Works project.

The Proposed Project will be held to the requirements under Section 408.

Magnuson-Stevens Fishery Conservation and Management Act

Magnuson-Stevens Act of 1976 (revised in 1996 and reauthorized 2007) is the primary law governing marine fisheries management in federal waters. Under the act, federal agencies that fund, permit, or carry out activities that may adversely impact Essential Fish Habitat (EFH) or Habitat Areas of Particular Concern (HAPCs) are required to consult with NMFS regarding the potential adverse effects of Project activities, as well as respond in writing to NMFS Project-specific recommendations.

The Proposed Project will be held to the principles set forth by this act.

Migratory Bird Treaty Act of 1918

Migratory birds are protected under the Migratory Bird Treaty Act of 1918 (MBTA; 16 USC Sections 703–711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Section 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR Section 21).

The Proposed Project will be held to the requirements under this act.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 (16 USC Sections 668–668c) prohibits anyone, without a permit issued by the Secretary of the Interior, from “taking” bald or golden eagles, including their parts (feathers, nests, or eggs). This act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.” Regulations for permitting take of bald eagles or golden eagles (50 CFR 22) provide permits for "the taking, possession, and transportation within the United States of bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) and their parts, nests, and eggs for scientific, educational, and depredation control purposes; for the religious purposes of American Indian tribes; and to protect other interests in a particular locality. This part also governs the transportation into or out of the United States of bald and golden eagle parts for scientific, educational, and Indian religious purposes." The USFWS issues and maintains permits for eagle take.

The Proposed Project will be held to the requirements under this act.

Executive Order 13112

Executive Order (EO) 13112 directs all federal agencies to refrain from authorizing, funding, or carrying out actions or projects that may spread invasive species. As part of the proposed action, USFWS and USACE will issue permits and, therefore, will be responsible for ensuring that the proposed action complies with EO 13112 and does not contribute to the spread of invasive species.

The Proposed Project will be held to the principles of EO 13112.

Executive Order 11990

EO 11990 (42 Federal Register [FR] 26961) requires federal agencies to provide leadership and take action to minimize destruction, loss, or degradation of wetlands and to preserve and enhance the natural qualities of these lands.

The Proposed Project will be held to the principles of EO 11990.

3.4.2.2 State

California Endangered Species Act

Under the California Endangered Species Act (CESA), the CDFW is responsible for maintaining a list of endangered and threatened species (FGC Section 2070). Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present and determine whether the proposed project would have a potentially significant impact on such species.

Proposed project-related impacts on species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of the CESA. Take of protected species incidental to otherwise lawful management activities may be authorized under FGC Section 206.591. Authorization from CDFW will be in the form of an incidental take permit.

The Proposed Project will be held to requirements under this Act.

California Fish and Game Code – Native Plant Protection Act

The Native Plant Protection Act (FGC Sections 1900–1913) prohibits the taking, possession, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFW. Project impacts on these species are not considered significant unless the species are known to have a high potential to occur within the area of disturbance associated with construction of the proposed project.

The Proposed Project will be held to the requirements of the Native Plant Protection Act.

California Fish and Game Code – Natural Community Conservation Planning Act

The Natural Community Conservation Planning Act (FGC Sections 2800–2835) is also intended to protect special status species and their habitat by establishing natural community conservation plans to conserve and manage natural biological diversity within the plan area while allowing compatible and appropriate economic development, growth, and other human uses.

The Proposed Project will be held to the requirements of the Natural Community Conservation Planning Act.

California Fish and Game Code Sections 3503 and 3503.5

FGC Sections 3503 and 3503.5 provide regulatory protection to resident and migratory birds and all birds of prey within the state of California, including the prohibition of the taking of nests and eggs, unless otherwise provided for by the FGC.

The Proposed Project will be held to the requirements of Sections 3503 and 3503.5.

California Fish and Game Code – Fully Protected Species

California statutes afford fully protected status to several specifically identified birds, mammals, reptiles, and amphibians. These species cannot be taken, even with an incidental take permit. FGC Section 3505 makes it unlawful to take "any aigrette or egret, osprey, bird of paradise, goura, numidi, or any part of such a bird". FGC Section 3511 protects from take the following fully protected birds: (1) American peregrine falcon (*Falco peregrinus anatum*); (2) brown pelican (*Pelecanus occidentalis*); (3) California black rail (*Laterallus jamaicensis coturniculus*); (4) California clapper rail (*Rallus longirostris obsoletus*); (5) California condor (*Gymnogyps californianus*); (6) California least tern (*Sterna albifrons browni*); (7) golden eagle (*Aquila chrysaetos*); (8) greater sandhill crane (*Grus canadensis tabida*); (9) light-footed clapper rail (*Rallus longirostris levipes*); (10) southern bald eagle (*Haliaeetus leucocephalus leucocephalus*); (11) trumpeter swan (*Cygnus buccinator*); (12) white-tailed kite (*Elanus leucurus*); and (13) Yuma clapper rail (*Rallus longirostris yumanensis*).

FGC Section 4700 identifies the following fully protected mammals that cannot be taken: (1) Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*); (2) bighorn sheep (*Ovis canadensis*), except Nelson bighorn sheep (*Ovis canadensis* ssp.); (3) Guadalupe fur seal (*Arctocephalus townsendi*); 4) ring-tailed cat (*Bassariscus* sp.); (4) Pacific right whale (*Eubalaena*); (5) salt-marsh harvest mouse (*Reithrodontomys raviventris*); (6) southern sea otter (*Enhydra lutris nereis*); and (7) wolverine (*Gulo gulo*).

FGC Section 5050 protects from take the following fully protected reptiles and amphibians: (1) blunt-nosed leopard lizard (*Crotaphytus wislizenii silus*); (2) San Francisco garter snake (*Thamnophis sirtalis tetrataenia*); (3) Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*); (4) limestone salamander (*Hydromantes brunus*); and (5) black toad (*Bufo boreas exsul*).

FGC Section 5515 identifies certain fully protected fish that cannot lawfully be taken, even with an incidental take permit. The following species are protected in this fashion: (1) Colorado River squawfish (*Ptychocheilus*); (2) thicktail chub (*Gila crassicauda*); (3) Mohave chub (*Gila mohavensis*); (4) Lost River sucker (*Catostomus luxatus*); (5) Modoc sucker (*Catostomus microps*); (6) shortnose sucker (*Chasmistes brevirostris*); (7) humpback sucker (*Xyrauchen texanus*); (8) Owens River pupfish (*Cyprinoden radiosus*); (9) unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*); and (10) rough sculpin (*Cottus asperrimus*).

The Proposed Project will be held to FGC's requirements related to fully protected species.

California Wetlands and Other Policies

The California Natural Resources Agency and its various departments, which includes CDFW and the California Department of Water Resources (DWR), do not authorize or approve projects that fill or otherwise harm or destroy coastal, estuarine, or inland wetlands. Exceptions may be granted if all the following conditions are met:

- The project is water dependent.
- No other feasible alternative is available.
- The public trust is not adversely affected.
- Adequate compensation is proposed as part of the project.

The Proposed Project will be held to the policies of the California Natural Resources Agency and its various departments.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1966 (California Water Code Section 13000 et seq.; CCR Title 23, Chapter 3, Subchapter 15) is the primary state regulation that addresses water quality. The requirements of the act are implemented by the SWRCB at the state level and the regional water boards within the nine regions designated. The regional water boards carry out planning, permitting, and enforcement activities related to water quality in California. The regional water boards are responsible for controlling discharges to surface waters of the state by issuing waste discharge requirements or conditional waivers to waste discharge requirements. Waste discharge requirements are required by the regional water boards for activities that may affect water quality.

The Proposed Project will be held to the requirements of this act.

Clean Water Act Section 401 Water Quality Certification

A CWA Section 401 water quality certification is required for activities that require CWA Section 404 permits issued by USACE. As mentioned above, the SWRCB has primary regulatory authority for CWA Section 401 requirements for protecting water resources. Enforcement of these requirements is also handled by the nine regional water boards depending upon location of the potential impacts. The RWQCB will be responsible for CWA Section 401 for this project.

The Proposed Project will be held to the permit requirements under CWA Section 404.

California Native Plant Society

The CNPS is a nongovernmental agency that classifies native plant species according to current population distribution and threat level concerning extinction. These data are used by the CNPS to create and maintain a list of native California plants that have low numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California (CNPS 2021). Potential impacts on populations of CNPS-listed plants receive consideration under CEQA review.

The Proposed Project will be held to the standards set forth by CNPS.

3.4.2.3 Regional and Local

Town of Paradise Code of Ordinances

Chapter 8.12, Felling, Removal, Destruction, Damaging and Replacement of Trees, of the Town of Paradise Code of Ordinances intends to limit the indiscriminate destruction of healthy trees, preserve natural beauty, maintain healthy forests, and promote proper tree management through education. This section of the code prohibits felling of any qualifying trees without a permit. Certain activities are exempt from the tree felling permit program including the reparation, maintenance, or installation of service lines (Code of Ordinances 8.12.090) and the establishment of a Town-funded capital improvement project (Code of Ordinances 8.12.090). Tree felling permits may be issued to accommodate certain activities including the repair or installation of a Town-authorized wastewater treatment and disposal system (Code of Ordinances 8.12.090).

The Proposed Project will be held to the requirements of the Town of Paradise Code of Ordinances.

Town of Paradise General Plan

The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) includes the following policies related to biological resources that are relevant to the Proposed Project:

- **Policy OCEP-15**: Existing, significantly important natural habitat areas having high value for birds and other wildlife should be preserved for future generations through careful land use planning and public participation.
- **Policy OCEP-16**: Area fisheries shall be protected, and the cooperation of responsible agencies shall be sought to assure minimum stream flow and restore fisheries.

The Proposed Project will be held to the policies in the *Town of Paradise General Plan*.

Town of Paradise Tree Preservation Ordinance

The Town of Paradise Tree Preservation Ordinance (Chapter 8.12 of the Town's municipal code) intends to limit the indiscriminate destruction of healthy trees, preserve natural beauty, maintain healthy forests, and promote proper tree management through education. This section of code prohibits felling of any qualifying trees without a permit. Certain activities are exempt from the tree felling permit program including the reparation, maintenance, or installation of service lines and the establishment of a town-funded capital improvement project. Tree felling permits may be issued to accommodate certain activities including the repair or installation of a town-authorized wastewater treatment and disposal system.

The Proposed Project will be held to the requirements of the Town of Paradise Tree Preservation Ordinance.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following policies related to biological resources that are relevant to the Proposed Project:

- **Policy COS-P7.3**: Creeks shall be maintained in their natural state whenever possible, and creeks and floodways shall be allowed to function as natural flood protection features during storms.
- **Policy COS-P7.4**: New development projects shall mitigate their impacts in habitat areas for protected species through on- or off-site habitat restoration, clustering of development, and/or project design and through the provisions of the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) within the HCP/NCCP Planning Area, upon the future adoption of the HCP/NCCP.
- **Policy COS-P7.5**: No new development projects shall occur in wetlands or within significant riparian habitats, except within the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) Planning Area where such development is consistent with the conditions of the HCP/NCCP, upon the future adoption of the HCP/NCCP.
- **Policy COS-P7.6**: New development projects shall include setbacks and buffers along riparian corridors and adjacent to habitat for protected species, except where permitted in the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP)

Planning Area and where such development is consistent with the conditions of the HCP/NCCP, upon the future adoption of the HCP/NCCP.

- **Policy COS-P7.7**: Construction barrier fencing shall be installed around sensitive resources on or adjacent to construction sites. Fencing shall be installed prior to construction activities and maintained throughout the construction period.
- **Policy COS-P7.8**: Where sensitive on-site biological resources have been identified, construction employees operating equipment or engaged in any development-associated activities involving vegetation removal or ground disturbing activities in sensitive resource areas shall be trained by a qualified biologist and/or botanist who will provide information on the on-site biological resources (sensitive natural communities, special-status plant and wildlife habitats, nests of special-status birds, etc.), avoidance of invasive plant introduction and spread, and the penalties for not complying with biological mitigation requirements and other State and federal regulations.
- **Policy COS-P7.9**: A biologist shall be retained to conduct construction monitoring in and adjacent to all habitats for protected species when construction is taking place near such habitat areas.
- **Policy COS-P8.1**: Native plant species shall be protected and planting and regeneration of native plant species shall be encouraged, wherever possible, in undisturbed portions of development sites.
- **Policy COS-P8.4**: Introduction or spread of invasive plant species during construction of development projects shall be avoided by minimizing surface disturbance; seeding and mulching disturbed areas with certified weed-free native mixes; and using native, noninvasive species in erosion control plantings.
- **Policy COS-P9.1**: A biological resources assessment shall be required for any proposed development project where special-status species or critical habitat may be present. Assessments shall be carried out under the direction of Butte County. Additional focused surveys shall be conducted during the appropriate season if necessary. Upon adoption of the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP), assessment requirements of the HCP/NCCP shall be implemented for development projects within the HCP/NCCP area.
- **Policy COS-P9.2**: If special-status plant or animal species are found to be located within a development site, proponents of the project shall engage in consultation with the appropriate federal, State and regional agencies and mitigate project impacts in accordance with State and federal law. Upon adoption of the Butte Regional Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP), mitigation requirements of the HCP/NCCP shall be implemented for development projects within the HCP/NCCP area. Examples of mitigation may include:

    - Design the proposed project to avoid and minimize impacts.
    - Restrict construction to specific seasons based on project-specific special-status species issues (e.g., minimizing impacts to special-status nesting birds by constructing outside of the nesting season).
    - Confine construction disturbance to the minimum area necessary to complete the work.

- Mitigate for the loss of special-status species by purchasing credits at an approved conservation bank (if a bank exists for the species in question), funding restoration or habitat improvement projects at existing preserves in Butte County, or purchasing or donating mitigation lands of substantially similar habitat.
- Maintain a minimum 100-foot buffer on each side of all riparian corridors, creeks and streams for special-status and common wildlife.
- Establish setbacks from the outer edge of special-status species habitat areas.
- Construct barriers to prevent compaction damage by foot or vehicular traffic.

The Proposed Project will be held to the policies in the *Butte County General Plan 2030*.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following policies related to biological resources that are relevant to the Proposed Project:

- **Policy OS-1.1, Native Habitats and Species**: Preserve native species and habitat through land use planning, cooperation, and collaboration.
- **Policy OS-1.2, Regulatory Compliance**: Protect special-status plant and animal species, including their habitats, in compliance with all applicable state, federal and other laws and regulations.
- **Policy OS-2.5, Creeks and Riparian Corridors**: Preserve and enhance Chico's creeks and riparian corridors as open space for their aesthetic, drainage, habitat, flood control, and water quality values.
- **Policy OS-2.6, Oak Woodlands**: Protect oak woodlands as open space for sensitive species and habitat.

The Proposed Project will be held to the policies in the *Chico 2030 General Plan*.

City of Chico Tree Preservation Regulations

Chapter 16.66 Tree Preservation Regulations of Chico's municipal code requires that a tree removal permit be obtained from the director of the public works department before removing any trees within the city. This chapter of the code requires preparation of a tree protection plan that complies with the city's "Best Practices Technical Manual: Tree Preservation Measures" prior to the issuance of demolition permits, grading permits, building permits, use permits, planned development permits, or parcel or tentative subdivision maps.

The Proposed Project will be held to the requirements of Chico's Tree Preservation Regulations.

3.4.3 Method of Analysis

This section describes the methods used to analyze biological resources impacts within the study area.

3.4.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on biological resources if it would:

- **Impact BIO-1:** 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, regulations, or by the CDFW or USFWS
- **Impact BIO-2:** Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS
- **Impact BIO-3:** 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
- **Impact BIO-4:** Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites
- **Impact BIO-5:** Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- **Impact BIO-6:** Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

3.4.3.2 Approach to Analysis

Construction, Operation, and Maintenance

Biological impacts were evaluated qualitatively using data collected from the literature review, biological resources assessment, habitat mapping (including mapping of elderberry shrubs), aquatic resources preliminary assessment, and protocol Swainson's hawk surveys. When information about the presence of a particular special-status species is unknown, but suitable habitat is present, then the impact analysis took a conservative approach by inferring presence of special-status species within the Project area. Impacts on specific biological resources are assessed considering the potential for the Proposed Project to impact special status or otherwise protected species, habitat, or migration corridors. These impacts may be direct or indirect, short-term or longer term. Mitigation measures are defined for those impacts found to be significant along with justification as to whether that measure would be expected to effectively offset the corresponding impact.

The analysis of environmental effects focuses on foreseeable changes to biological resources in the context of effects listed in Section 3.4.3.1, CEQA Significance Criteria. The analysis considers the Core Collection System, Export Pipeline System, and Extended Collection System, as appropriate, in the context of construction, operation, and maintenance.

3.4.4 Impact Analysis

This section describes the potential effects on biological resources which could occur as a result of implementation of the Proposed Project. It includes an analysis of the Proposed Project's potential to impact sensitive communities and special-status plant and wildlife species in the study area. Excavation and ground disturbing activities as a result of these construction activities have the potential to impact biological resources in the study area. Open cutting in the roadway within 250 feet of vernal pools (as mandated by USFWS) could fracture the restrictive layer, resulting in effects on the subsurface

hydrology of vernal pools. Inadvertent fuel or chemical spills associated with the operation of construction vehicles and equipment could also impact aquatic resources in the study area.

3.4.4.1 Impact BIO-1: 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 CDFW or USFWS (Less than Significant Impact with Mitigation Incorporated)

Construction

The species or species groups identified in the following subsections were determined to have the potential to be adversely affected by Proposed Project-related activities, either directly through habitat modifications or indirectly.

Special-Status Plant Species. As presented in Section 3.4.1.6, Special-Status Species, suitable habitat for up to 39 species of rare plants occurs within the study area. Although none of these species were observed during field studies to date, the potential exists for them to occur in the study area due to the presence of suitable habitat and nearby occurrence records. Because these 39 species of rare plants occupy a wide variety of habitats, some even occurring in disturbed/ruderal areas, impacts on special-status plant species were considered for all components of the Proposed Project.

If any special-status plants are present within the Proposed Project footprint, including construction access routes or temporary work areas, individuals may be impacted by compaction, trampling, removal, or degradation of habitat. Although suitable habitat for special-status plants would be limited within the disturbed paved Town and Butte County ROWs where most of the construction would occur, there are limited areas where the pipeline in the Export Pipeline System would have to cross over or be constructed adjacent to natural habitats (Appendix E). There is also the potential for special-status plants to occur in areas adjacent to the Proposed Project footprint, including construction access routes or temporary work areas, during construction of the Core Collection System and Extended Collection System, although these components would be less likely to impact these habitats because they would be within Town limits, where more disturbance has already occurred. The potential for impacts would be avoided as much as possible; however, ground disturbance associated with construction of the Core Collection System, Export Pipeline System, and Extended Collection System may result in adverse impacts on these species should they be present in areas proposed for disturbance. This would be considered a significant impact on special-status plants.

Mitigation. To minimize potentially significant impacts on special-status plant species during construction of the Proposed Project to a less than significant level, mitigation measures **MM-BIO-1** through **MM-BIO-5** will be implemented.

MM-BIO-1: Minimize Disturbance Footprint. During site preparation for any segment of the Core Collection System, Export Pipeline System, or Extended Collection System, ground disturbance and vegetation clearing footprints, including along construction access routes or at temporary work areas, will be reduced to the smallest area feasible. Prior to any ground disturbance, a qualified biologist hired by the Town will identify areas to be avoided during construction activities; these areas will be fenced and/or flagged as close to construction limits as feasible. This mitigation measure is coordinated with MM-BIO-2 but applies to all biological resources.

MM-BIO-2: Special-status Plant Surveys. Prior to initiating proposed ground disturbance or vegetation clearing, including along construction access routes or at temporary work areas, a qualified botanist will perform focused surveys to determine the presence or absence of special-status plant species with potential to occur in and adjacent to (within a radius of 100 feet, as prescribed by CDFW) proposed disturbance areas. These surveys will be conducted in accordance with CDFW *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018a), which requires rare plant surveys be conducted at the proper time of year when rare or endangered species are both evident and identifiable. Surveys will be scheduled to coincide with known flowering periods, and/or during appropriate developmental periods that are necessary to identify the plant species of concern. If special-status plants are identified during surveys, then **MM-BIO-3** will be implemented.

MM-BIO-3: Special-status Plant Avoidance. If any special-status plant species are found within 100 feet of ground disturbance or vegetation clearing areas, including construction access routes or temporary work areas, during **MM-BIO-2**, the following will be implemented:

- Any special-status plant species that are identified within 100 feet of proposed ground disturbance or vegetation clearing areas, including construction access routes or temporary work areas, but are not proposed to be disturbed (that is, the area doesn't need to be cleared for construction), will be protected by flagging, signage, orange plastic fence, and/or silt fence, as appropriate based on site conditions, to limit the effects of activities and material stockpiles on special-status plant species.
- If activities could result in the loss of greater than 10 percent of a population identified during surveys or occupied habitat for a special-status plant species, a mitigation plan will be developed and implemented by a qualified biologist for the Town that will include a program to transplant, salvage, cultivate, and reestablish the species at suitable sites (if feasible); means and methods to propagate affected special-status plants through vegetative or reproductive means (for example, harvesting of seed or seed bank through topsoil collection, salvaging and transplanting or collecting of cuttings), as appropriate for the species, and transplant at suitable receiving sites as close to the existing population as possible. The plan will be approved by CDFW and any other agencies with jurisdiction over the species found to be present prior to implementation of the plan and before initiation of any construction related activities. Propagation and transplantation will occur prior to initiation of the activity. The receiving location will be evaluated and chosen based on similarity to conditions at the transplant source location. Site conditions to consider when choosing a receiving site will include aspect, substrate, hydrology, associated species, and canopy cover. The transplanted plants will be monitored by a qualified biologist for the Town for at least 1 year following transplantation. As part of the mitigation plan, a monitoring plan will be developed and approved by CDFW with propagation goals tailored to the species that are being transplanted. If propagation goals are not met after 1 year following transplantation, then adaptive management strategies will be developed in coordination with CDFW to achieve those goals.
- The actual level of mitigation may vary depending on the sensitivity of the species, its prevalence in the area, the location of the occurrence, and the current state of knowledge about overall population trends and threats to its survival; however, at a minimum, the species and

habitat will be replaced at a 1:1 ratio (individuals or acreage of occupied habitat). Ratios will be developed in coordination with and approved by CDFW.

MM-BIO-4: Biological Monitoring and Worker Environmental Awareness Training. A qualified biologist will monitor construction activities that could potentially cause significant impacts on sensitive biological resources. The amount and duration of monitoring will depend on the activity and will be determined by a qualified biologist for the Town. Monitoring will be required at any location where special status species have been identified within 100 feet of vegetation clearing area. In addition, a qualified biologist will be retained by the Town to conduct mandatory contractor/worker awareness training for construction personnel to brief them on the identified location of sensitive biological resources, including how to identify species (visual and auditory) most likely to be present, the need to avoid impacts on biological resources (e.g., plants, wildlife, and jurisdictional waters), and on the penalties for not complying with biological mitigation requirements. If new construction personnel are added to the Project, the contractor will ensure that they receive the mandatory training before starting work. This mandatory training will be included in all contractor construction documentation as special conditions and will be enforceable as contract provisions. This measure will apply to any biological resources for which complete avoidance cannot be attained through **MM-BIO-1** or resource-specific measures.

MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control. Following construction of the Core Collection System, Export Pipeline System, or Extended Collection System, all exposed and/or disturbed areas resulting from ground disturbing activities, including construction access routes or temporary work areas, will be returned to their original contour and grade, and restored using locally native grass and forb seeds, plugs, or a mix of the two. Areas will be seeded with species appropriate to their topographical and hydrological character and covered with broadcast straw and/or jute netted, as appropriate for specific habitat type. For example, temporarily disturbed wetlands will be seeded with native hydrophytic species typical to the region, whereas upland areas will be seeded with an upland grass and forb mix. Several invasive and noxious weed species are known to occur in the study area, and 27 plant species classified by the California Invasive Plant Council as invasive were identified in the study area during field studies (Appendix E). In order to avoid the spread of invasive plant species in the study area, native species will be used for reseeding, and the Proposed Project will not allow any use of species listed as noxious weeds. Further, precautions will be taken to avoid the spread of invasive plant species. These include the inspection and cleaning of construction equipment and implementation of CDFW-approved eradication strategies should an invasion occur. This measure is focused on habitat, but applies to all biological resources (e.g., special status species dependent on specific habitat).

Significance after Mitigation. Implementation of **MM-BIO-1** will minimize impacts on special-status plant species through restriction of ground disturbance and vegetation clearing footprint. **MM-BIO-2** will determine whether special-status plants are present within 100 feet of proposed ground disturbance and vegetation clearing, including construction access routes and temporary work areas. If special-status plants are determined to be absent, no further mitigation is required; however, if special-status plants are determined to be present, implementation of **MM-BIO-3** will be required to confirm the location and extent of special-status plant populations and provide for biological oversight, such as fencing and flagging, of construction activities to minimize incidental impacts that could occur during

construction. As shown, if the Proposed Project is approved, implementation of the aforementioned mitigation measures will reduce impacts on special-status plants to a less than significant level.

Vernal Pool Crustaceans. Vernal pools were mapped in the study area during the aquatic resources preliminary assessment. Vernal pools in the study area could provide suitable habitat for previously analyzed special-status plants and three vernal pool crustaceans: vernal pool tadpole shrimp, vernal pool fairy shrimp, and Conservancy fairy shrimp. Protocol-level surveys for vernal pool crustaceans have not been performed to date in the study area; therefore, their presence is assumed due to the existence of suitable habitat and proximity of documented occurrences of vernal pool tadpole shrimp (1.5 miles), vernal pool fairy shrimp (4 miles), and Conservancy fairy shrimp (8 miles; CDFW 2021a).

Construction associated with the Proposed Project could result in impacts on vernal pool crustaceans, because multiple vernal pools are mapped within 250 feet of Skyway (the distance from ground disturbance that is mandated by USFWS for avoidance), and construction of the transition chamber, which involves open excavation, is proposed to take place between Skyway and Butte Creek in an area where vernal pools are known to be present. The extent and location of vernal pools is estimated conservatively due to a limitation of access during the aquatic resources preliminary assessment to the area between Skyway and Butte Creek and to other areas within 250 feet of Skyway where vernal pools are potentially present. However, due to their assumed presence for the reasons described above, impacts on vernal pool crustaceans could be significant.

Mitigation. To minimize potentially significant impacts on vernal pool crustaceans during construction of the Proposed Project to a less than significant level, mitigation measures **MM-BIO-1** and **MM-BIO-6** through **MM-BIO-8** will be implemented.

MM-BIO-6: No Net Loss of Aquatic Resources. No net loss of aquatic resources would be achieved through impact avoidance, minimization, which are both covered under MM-BIO-1 through MM-BIO-4, and/or compensatory mitigation. Mitigation for permanent impacts on aquatic resources will be provided at a minimum 1:1 ratio. Mitigation will be achieved through onsite restoration, in-lieu fee payment, or purchase of mitigation credits at a USACE-, USFWS-, and/or CDFW-approved mitigation bank at the expense of the Town. Mitigation, as required in regulatory permits issued through CDFW, USACE, USFWS, and/or the RWQCB will be applied to satisfy this measure.

MM-BIO-7: Sensitive Community Fencing. If sensitive communities occur within 100 feet (250 feet for vernal pools as mandated by USFWS) of proposed ground disturbing activities, including construction access routes and temporary work areas, with no pre-existing barrier between them and the proposed ground disturbance, protective fencing, such as silt fencing, will be installed between habitats that are to be avoided and the construction limits to prevent accidental disturbance and to protect water quality during construction.

MM-BIO-8: Dry Work Areas. Ground disturbing activities within 100 feet (250 feet for vernal pools) of aquatic resources will coincide with the driest time of year and will avoid occurring within 72 hours (before or after) a rain event, if feasible.

Significance after Mitigation. Implementation of **MM-BIO-1** will minimize impacts on special-status species through restriction of ground disturbance and the vegetation clearing footprint. If mapping

efforts completed after final design and with full site access find that vernal pools are absent, no further mitigation is required; however, if vernal pools are present, implementation of **MM-BIO-6** through **MM-BIO-8** will provide for biological oversight of construction activities, require mitigation for the permanent loss of vernal pool habitats at a minimum of 1:1 ratio, minimize adverse impacts resulting from sedimentation and erosion during construction, and demarcate vernal pools that need to be avoided by construction activities to minimize incidental impacts that could occur during construction. As shown, if the Proposed Project is approved, implementation of the aforementioned mitigation measures would reduce impacts on vernal pool habitat and vernal pool crustaceans to a less than significant level.

Valley Elderberry Longhorn Beetle. Elderberry mapping in the study area took place as part of the field studies in Spring 2021. Elderberry shrubs were noted in two locations in the study area: where the pipeline crosses Little Chico Creek at Taffee Avenue, and on the west bank of Butte Creek (which the Butte Creek HDD crossing would pass under). Construction associated with the Proposed Project may result in direct (elderberry shrub loss) or indirect (soil compaction, fugitive dust, etc.) impacts on elderberry shrubs, and potentially valley elderberry longhorn beetle, should elderberry shrubs be present within 165 feet of ground disturbance and/or vegetation clearing areas (in accordance with *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* [USFWS 2017]). For the purposes of this analysis, this impact is considered significant.

Mitigation. To minimize potentially significant impacts on the valley elderberry longhorn beetle during construction of the Proposed Project to a less than significant level, mitigation measures **MM-BIO-1** and **MM-BIO-9** through **MM-BIO-14** will be implemented.

MM-BIO-9: Mapping of Elderberry Shrubs and USFWS Section 7 Consultation. If Proposed Project impacts, including along construction access routes and temporary work areas, are to take place within 165 feet of a riparian corridor where elderberry shrubs are known to be present, then a full inventory of elderberry shrubs within 165 feet of the proposed disturbance, including an assessment of whether valley elderberry longhorn beetle exit holes are present, will be conducted pursuant to the *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017). Based on the inventory findings, the Town and USFWS will coordinate to determine whether formal consultation is required for the Project. If formal consultation is deemed required, results of the inventory will be submitted by the Town in a Biological Assessment to USFWS. USFWS will review proposed findings and mitigation, and respond in a Biological Opinion, which will finalize elderberry mitigation that will be required of the Town for the Proposed Project.

MM-BIO-10: No Net Loss of Elderberry Shrubs. Elderberry shrubs that would be directly impacted by the Proposed Project will be transplanted to a new suitable location. In addition, two credits would be purchased at a USFWS-approved bank for each shrub (2:1 ratio). Mitigation as required in regulatory permits issued through USFWS may be applied to satisfy this measure.

MM-BIO-11: Elderberry Transplanting. Elderberry shrubs would be transplanted outside the flight season of the valley elderberry longhorn beetle (March to July) and follow the most current version of the American National Standards Institute A300 (Part 6) guidelines for transplanting (http://www.tcia.org/). Exit-hole surveys would be completed immediately before transplanting. The

number of exit holes found, GPS location of the plant to be relocated, and the GPS location of where the plant is transplanted would be reported to USFWS. A qualified biologist hired by the Town will be on site for the duration of transplanting activities to ensure compliance with avoidance and minimization measures and other conservation measures. The transplanted shrubs will be monitored by a qualified biologist during one growth season following transplant to confirm shrub survival. If the shrub(s) are deemed alive, no further monitoring or action would be necessary. If the shrub(s) are deemed dead, an additional one credit per shrub would be purchased by the Town from a USFWS-approved bank for valley elderberry longhorn beetle.

MM-BIO-12: Avoidance Areas. Activities that may indirectly damage or kill an elderberry shrub (trenching, paving, etc.) will require an avoidance area of at least 20 feet from a shrub's drip line, as appropriate, depending on the type of activity. All activities that could occur within 165 feet of an elderberry shrub will also be conducted outside of the flight season of the valley elderberry longhorn beetle (March to July).

MM-BIO-13: Chemical Use. Herbicides will not be used within the drip line of the shrub. Insecticides will not be used within 98 feet (30 meters, as required by USFWS) of an elderberry shrub. If deemed necessary, all chemicals will be applied using a backpack sprayer or similar direct application method.

MM-BIO-14: Mowing. Mechanical weed removal within the drip line of the shrub would be limited to the season when adult- valley elderberry longhorn beetles are not active (August to February) and will be completed so as to not damage an elderberry shrub.

Significance after Mitigation. Implementation of **MM-BIO-1** would minimize impacts on special-status species through restriction of ground disturbance and vegetation clearing footprint. **MM-BIO-9** would evaluate the potential for elderberry to be present within 165 feet of areas proposed for ground disturbance and vegetation clearing. If **MM-BIO-9** determines elderberry shrubs would be directly or indirectly affected by Project activities, then **MM-BIO-10** through **MM-BIO-14** would be implemented through compensatory mitigation, transplanting of shrubs, and avoidance. If the proposed Project is approved, implementation of the aforementioned mitigation measures would reduce impacts on valley elderberry longhorn beetle to a less than significant level.

Special-Status Fishes. The following special-status fish species occur or have potential to occur in the study area and were identified in the various special-status species queries: steelhead (Central Valley Distinct Population Segment), Chinook salmon (Central Valley spring-run Evolutionary Significant Unit), and hardhead (*Mylaphorodon conocephalus*). Steelhead and chinook salmon are known to be present in the study area in Butte Creek, while hardhead may be present in Butte Creek or Little Chico Creek.

Fish species in the study area are not likely to be affected by the Proposed Project since crossings of streams are to be carried out by HDD borings at least 20 feet below the creek bed and will not damage riparian habitat along edges of creek. However, there is potential for special-status fish species and other aquatic wildlife to be affected in the event of a frac-out, which is the unintentional or inadvertent loss of drilling fluids that could rise to the ground surface during an HDD installation. For the purposes of this analysis, this impact is considered significant.

Mitigation. To minimize potentially significant impacts on special-status fish species during construction of the Proposed Project to a less than significant level, mitigation measure **MM-BIO-15** will be implemented prior to initiation of ground disturbing and vegetation clearing activities.

MM-BIO-15: Frac-Out-Plan. Prior to construction, and included within the contractor construction documentation as special conditions, which will be enforceable as contract provisions, the Town will require that its contractor prepare an Inadvertent Release Plan to address inadvertent loss of inert drilling fluids in the event of a frac-out during HDD for each waterbody crossing. This plan will include Best Management Practices, monitoring, and contingency procedures, and will be developed, approved by a qualified biologist hired by the Town, and implemented by the contractor during construction to avoid or counteract potential impacts on water quality, fish, or other aquatic wildlife resulting from turbidity changes from the fluids.

Significance after Mitigation. Implementation of **MM-BIO-15** will minimize impacts on special-status fish species in the event of a frac-out and result in a less-than-significant finding.

Special-Status Amphibians and Reptiles. Special-status amphibians and reptiles that have the potential to occur in the study area include foothill yellow-legged frog, California red-legged frog, western pond turtle, and giant garter snake.

Implementation of the Proposed Project may result in potentially significant impacts on special-status amphibians and reptiles should suitable habitat and individuals be present in or adjacent to areas of proposed ground disturbing or vegetation clearing activities in association with construction of the Core Collection System, Export Pipeline System, and Extended Collection System. This would be considered a significant impact on special-status amphibians and reptiles.

Mitigation. To minimize potentially significant impacts on special-status amphibians and reptiles during construction of the Proposed Project to a less than significant level, mitigation measures **MM-BIO-1, MM-BIO-6** through **MM-BIO-8**, and **MM-BIO-16** through **MM-BIO-20** will be implemented.

MM-BIO-16: Western Pond Turtle Visual Encounter Surveys. A preconstruction survey for western pond turtle would be conducted by a qualified biologist within 24 hours prior to the onset of any ground disturbing activities that would occur within 350 feet of the OHWM of a creek or stream. If juvenile or adult turtles are found within the survey area, they would be moved by a qualified and CDFW-permitted biologist hired by the Town at least 500 feet away from the proposed disturbance area to a location with similar habitat. If a turtle nest is found within the survey area, construction activities would not take place within 100 feet of the nest until the turtles have hatched or the eggs have been moved to an appropriate location. Any egg relocation would be conducted by a qualified and CDFW-permitted biologist in coordination with CDFW.

MM-BIO-17: Foothill Yellow-legged Frog Surveys. Within 3-5 days prior to working within 300 feet radius of the OHWM of a creek or stream within the foothill yellow-legged frog range, per CDFW guidelines, a qualified and CDFW-permitted biologist will survey the Proposed Project site for foothill yellow-legged frogs (adults, subadults, tadpoles or egg masses), including construction access routes and at least 500 feet upstream and downstream (CDFW 2018b). Although unlikely, if the Project activities are expected to result in effects extending beyond 500 feet downstream (e.g., heavy

sedimentation that could bury egg masses or tadpole rearing sites), the survey area will be expanded to encompass the expected affected area. If surface water is present during the work period, a qualified biologist hired by the Town will inspect the work area daily for foothill yellow-legged frogs before work begins and during construction.

MM-BIO-18: California Red-legged Frog Surveys. Within 3-5 days prior to working within 300 feet of the OHWM of a creek or within 300 feet of fresh emergent wetland habitat, a qualified and CDFW-permitted biologist will conduct a visual encounter survey of the Proposed Project site for California red-legged frogs (adults, subadults, tadpoles or egg masses).

MM-BIO-19: Conduct Construction Activities during the Active Period for Giant Garter Snakes. During biological monitoring (MM-BIO-4), the biologist will identify any suitable aquatic or upland habitat that may be used by giant garter snake within or adjacent to areas where ground disturbing and vegetation clearing activities would occur. All construction activity within 200 feet of suitable giant garter snake aquatic (generally defined as sloughs, irrigation ditches, creeks or slow-moving streams) or upland habitat (defined as grasslands or disturbed areas within 200 feet of an aquatic feature suitable for a giant garter snake) will be conducted during the snake's active period (May 1 through October 1) in order to minimize the risk that the snakes will be underground and more susceptible to injury or death from ground disturbing activities.

MM-BIO-20: Minimize Potential Effects on Giant Garter Snake Habitat. Staging areas will be located more than 200 feet from any suitable giant garter snake aquatic or upland habitat as identified during monitoring by the biologist, or the area will be fenced with exclusion fencing prior to the start of construction. Vegetation clearing within 200 feet of the banks of suitable giant garter snake aquatic habitat will be limited to the minimum area necessary. The movement of heavy equipment within 200 feet of the banks of suitable giant garter snake aquatic habitat will be confined to designated haul routes to minimize habitat disturbance.

Significance after Mitigation. Implementation of **MM-BIO-1** would minimize impacts on special-status species through restriction of ground disturbance. If areas within the species buffers discussed above of suitable habitat for these species will be avoided, then no further mitigation is required; however, if ground disturbing and vegetation clearing activities will occur within species buffer areas of suitable habitat, implementation of **MM-BIO-6** through **MM-BIO-8**, and **MM-BIO-16** though **MM-BIO-20** will provide for biological oversight of construction activities, implement construction BMPs to minimize adverse impacts resulting from sedimentation and erosion during construction, and protect western pond turtle nests, if found. As shown, if the Proposed Project is approved, implementation of the aforementioned mitigation measures will reduce impacts on special-status amphibians and reptiles to a less than significant level.

MBTA- and FGC- Protected Birds and Raptors. As a result of the queries and desktop review, the study area may provide nesting, wintering, and/or foraging habitat for several special-status bird and raptor species including golden eagle, Swainson's hawk, northern harrier, white-tailed kite, bald eagle, and loggerhead shrike. Swainson's hawk, northern harrier, and bald eagle were confirmed present in the study area during field studies in spring 2021. Swainson's hawk surveys conducted during those field studies revealed the presence of one nesting pair of Swainson's hawks within 0.5 mile of the

pipeline route (full results of the Swainson's hawk surveys are presented in Appendix F). The study area also may provide nesting, wintering, and/or foraging habitat for other migratory birds and raptors besides the special-status species identified in the database results provided in Appendix E, Attachment 3. All native breeding birds (except game birds during the hunting season), regardless of their listing status, are protected under FGC Section 3503.

Implementation of the Proposed Project may result in potentially significant impacts on MBTA- and FGC-protected migratory birds and raptors, either directly from incidental nest destruction, or indirectly through excessive noise, should suitable habitat and individuals be present in or adjacent to areas of proposed ground disturbing or vegetation clearing activities associated with construction of the Core Collection System, Export Pipeline System, and Extended Collection System. This would be considered a significant impact on MBTA- and FGC-protected migratory birds and raptors.

Mitigation. To minimize potentially significant impacts on migratory birds and raptors during construction of the Proposed Project to a less than significant level, mitigation measures **MM-BIO-1**, **MM-BIO-21**, **MM-BIO-22**, and **MM-BIO-23** will be implemented.

MM-BIO-21: MBTA- and FGC-Protected Bird and Raptor Surveys. To the extent feasible, tree and vegetation clearing will be conducted outside the migratory bird nesting season (March 1 through August 31) in areas where the Town's biologist identifies potential nesting trees. However, if clearing and/or construction activities need to occur during the migratory bird nesting season in these locations, then preconstruction surveys to identify active migratory bird and/or raptor nests would be conducted by a qualified biologist within 14 calendar days prior to construction initiation. Focused surveys must be performed by a qualified biologist for the purposes of determining presence or absence of active nest sites within the proposed impact area, including construction access routes with a 500-foot buffer, where feasible.

MM-BIO-22: Protocol Swainson's Hawk Surveys. In the year that construction of the Proposed Project is planned to be initiated, a qualified biologist will conduct protocol surveys for Swainson's hawk in and within 0.5-mile of all suitable habitat for the species in the Proposed Project footprint. These surveys will follow the protocol outlined in the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (CDFW 2000). If any active Swainson's hawk nests are found, the biologist will determine an appropriately sized buffer around the nest in which construction activities will not be allowed to commence until which time the nest has been determined by the biologist to have reached the end of its cycle (fledged or failed). The size of the buffer will initially be 0.25-mile per CDFW standard requirements but may be reduced in certain circumstances based on the opinion of the biologist regarding observed sensitivity of the hawks to disturbance, visual screens between the nest and disturbance, and other factors.

MM-BIO-23: Nest Avoidance. If active nests of any MBTA- and FGC-protected bird species are identified within the survey areas, a no-disturbance buffer would be established for all active nest sites prior to commencement of any Proposed Project construction activities to avoid construction or access-related disturbances to migratory bird nesting activities. A no disturbance buffer is a zone in which Proposed Project-related activities (that is, vegetation removal, earth moving, noise generation, and

construction) cannot occur. The size of the no disturbance buffers would be determined by a qualified biologist based on the species, activities proposed near the nest, and topographic and other visual barriers.

Significance after Mitigation. Implementation of **MM-BIO-1** would minimize impacts on migratory birds and special-status raptors by reducing the area of disturbance to the smallest footprint feasible to avoid unnecessary encroachment into areas that may support migratory birds and special-status raptors. Additionally, implementation of **MM-BIO-21** and **MM-BIO-22** would minimize impacts on nesting birds by requiring preconstruction nesting surveys. Finally, implementation of **MM-BIO-23** would further minimize impacts on nesting birds by requiring nest avoidance. Implementation of the aforementioned mitigation measures would reduce impacts on these species to a less than significant level.

Special-Status Bats. Bats roost in a wide variety of habitats, including buildings, mines, under bridges, rock crevices, caves, under tree bark, and in snags. The Townsend's big-eared bat, pallid bat, western mastiff bat, and western red bat are all considered California species of special concern with potential to occur in the study area. These species may use a variety of habitats, such as riparian areas with hollow trees or trees with exfoliating bark and human-made structures throughout the study area, as well as in adjoining offsite areas, for roosting and foraging. The disturbance of active maternity roosts would affect the reproductive success of the species because young do not fly from the maternity roost until they reach several months in age (CDFW 2021b). Increased noise levels associated with the Proposed Project construction activity, especially in the areas of the Export Pipeline System near riparian areas, have the potential to disturb bat roosts, which would be considered a potentially significant impact.

Mitigation. To minimize potentially significant impacts on special-status bats during construction of the Proposed Project to a less than significant level, mitigation measures **MM-BIO-1** and **MM-BIO-24** will be implemented.

MM-BIO-24: Bat Surveys. Prior to implementation of Proposed Project-related activities in undisturbed portions of the Proposed Project site and in and around buildings or other human-made structures with recesses where bats could potentially roost, a qualified biologist will conduct a daytime site reconnaissance of the area. The biologist, focusing on buildings and other human-made structures or trees with cavities or exfoliating bark, would look for bats and bat signs including existing roost sites, bat guano deposits, and will listen for roosting bats. If the daytime survey does not identify the presence of potential bat roosts, no further mitigation is required. If potential roost sites are identified, an exit nighttime survey will be conducted to determine species of roosting bats, relative bat activity, and to estimate the number of individual bats. This nighttime survey may be an active or passive acoustic monitoring survey. If occupied bat roost sites are identified, appropriate spatial and temporal buffers, as defined by the Town's biologist based on experience with bat species, would be implemented to minimize impact on roosting bats during construction of the Project.

Significance after Mitigation. Implementation of **MM-BIO-1** would reduce the area of disturbance to the smallest footprint feasible to avoid unnecessary encroachment into areas that may be used as roosting sites by special-status bats. Additionally, implementation of **MM-BIO-24** would minimize

impacts on special-status bats by requiring preconstruction surveys for roosts and full avoidance is detected. As shown, if the Proposed Project is approved, implementation of the aforementioned mitigation measures would reduce impacts on special-status bats from a significant level to a less than significant level.

American Badger. Grassland and shrub communities in the study area may provide suitable foraging, movement, and denning habitat for the American badger. Although there are no recorded occurrences near the Proposed Project, American badgers are known to occur across most of the State and annual grasslands in the study area provide suitable habitat for this species. Due to the presence of suitable habitat for American badger, implementation of Proposed Project-related activities, especially ground disturbance associated with the Export Pipeline System in annual grassland habitat between Skyway and Butte Creek, may result in adverse impacts on this species should it be present, which would be considered a significant impact.

Mitigation. To minimize potentially significant impacts on American Badger during construction of the Proposed Project to a less than significant level, mitigation measures **MM-BIO-1** and **MM-BIO-25** will be implemented.

MM-BIO-25: American Badger Detection Surveys. Within 14 days prior to implementation of Proposed Project-related activities in or adjacent to American badger habitat (annual grassland, mixed chaparral, and blue oak-foothill pine), a qualified biologist will determine if American badger dens are present within 500 feet of the proposed impact area, including construction access routes. If badger den(s) are observed, the following buffer distances, according to what type of den(s) the biologist determines it (them) to be, will be established prior to construction activities:

- potential den = 30 feet
- active (adults present) den = 250 feet
- natal (young present) den = 500 feet

Activities permitted within and the size of the no disturbance buffers may be adjusted based on an evaluation by the qualified biologist. The buffer would be imposed until a qualified biologist determines the den is inactive.

Significance after Mitigation. Implementation of **MM-BIO-1** would reduce the area of disturbance to the smallest footprint feasible to avoid unnecessary encroachment into areas that may be used by American badger. Additionally, implementation of **MM-BIO-25** would minimize impacts on American badger by requiring preconstruction den surveys and den avoidance. As shown, implementation of the aforementioned mitigation measures would reduce impacts on American badger to a less than significant level.

Operation and Maintenance

As discussed in Section 2.8, Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same

procedures and standards would apply. Operation and maintenance activities would be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced as noted above. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), making the potential to impact habitat suitable for special-status plant or wildlife species limited. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Proposed Project would result in less than significant impacts on special-status species.

Mitigation. No mitigation required.

3.4.4.2 Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS (Less than Significant Impact with Mitigation Incorporated)

Construction

As mentioned in Section 3.4.1.5, Sensitive Communities, the Proposed Project study area includes valley foothill riparian habitat, aquatic resources including perennial channels, and essential fish habitat, which are all considered sensitive natural communities by the resource agencies.

The Proposed Project has been designed to minimize impacts on sensitive natural communities as construction activities would mostly occur in previously disturbed areas (within paved roads), and perennial channels are to be avoided by the use of HDD boring. However, inadvertent fuel or chemical spills associated with the operation of construction vehicles and equipment could result in a significant impact on aquatic resources in the study area.

Mitigation. To minimize potentially significant impacts on sensitive natural communities during construction of the Proposed Project to a less than significant level, mitigation measures **MM-BIO-1** and **MM-BIO-5** through **MM-BIO-8** will be implemented.

MM-BIO-1: Minimize Disturbance Footprint (see Impact BIO-1 for description)

MM-BIO-5: Restoration of Temporarily Disturbed Areas (see Impact BIO-1 for description)

MM-BIO-6: No Net Loss of Aquatic Resources (see Impact BIO-1 for description)

MM-BIO-7: Sensitive Community Fencing (see Impact BIO-1 for description)

MM-BIO-8: Dry Work Areas (see Impact BIO-1 for description)

Significance after Mitigation. Implementation of **MM-BIO-1** would reduce the area of disturbance to the smallest footprint feasible to avoid unnecessary encroachment into sensitive habitat areas. Additionally, implementation of **MM-BIO-6** would provide that there is no net loss of aquatic resources, implementation of **MM-BIO-7** and **MM-BIO-8** would provide that sensitive communities would not be

degraded by erosion, sedimentation, or other harmful materials. This would be accomplished by restricting work in wetted areas, buffering and fencing off sensitive areas, and implementing standard BMPs. Following construction, implementation of **MM-BIO-5** would minimize adverse effects on sensitive communities because of Proposed Project-induced erosion and encroachment of invasive plants by requiring temporarily disturbed areas to be revegetated with native species. As shown, implementation of the aforementioned mitigation measures would reduce impacts on sensitive natural communities to a less than significant level.

Operation and Maintenance

As discussed in Section 2.8, Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities would be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced as noted above. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), making the potential to impact sensitive natural communities limited. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Proposed Project would result in less than significant on sensitive natural communities.

Mitigation. No mitigation required.

3.4.4.3 Impact BIO-3: Have a substantial adverse effect on state or federally protected wetlands (Less than Significant Impact with Mitigation Incorporated)

Construction

The preliminary assessment of aquatic resources identified vernal pools and other aquatic features which may be State and/or federally protected wetlands in the study area. The Proposed Project has been designed to minimize impacts on sensitive aquatic resources as construction activities would mostly occur in previously disturbed areas (within paved roads), and perennial channels are to be circumvented by the use of HDD boring. However, multiple vernal pools are mapped within 250 feet of Skyway, and construction of the transition chamber involves opening an excavation area between Skyway and Butte Creek in an area where vernal pools are known to be present. Even if direct impacts on vernal pools are avoided, open cutting within 250 feet of vernal pools could fracture the restrictive layer resulting in indirect effects on the subsurface hydrology of vernal pools. Further, inadvertent fuel or chemical spills associated with the operation of construction vehicles and equipment could also impact aquatic resources in the study area. Any impacts on aquatic resources would be considered a significant impact.

Mitigation. To minimize potentially significant impacts on state or federally protected wetlands during construction of the Proposed Project to a less than significant level, mitigation measures **MM-BIO-1**, **MM-BIO-5** through **MM-BIO-8**, and **MM-BIO-26** will be implemented.

MM-BIO-1: Minimize Disturbance Footprint (see Impact BIO-1 for description)

MM-BIO-5: Restoration of Temporarily Disturbed Areas (see Impact BIO-1 for description)

MM-BIO-6: No Net Loss of Aquatic Resources (see Impact BIO-1 for description)

MM-BIO-7: Sensitive Community Fencing (see Impact BIO-1 for description)

MM-BIO-8: Dry Work Areas (see Impact BIO-1 for description)

MM-BIO-26: State or Federally Protected Wetlands Mitigation. Compensatory mitigation for temporary and permanent impacts on state and/or federally protected wetlands that cannot be avoided through other mitigation measures will be purchased by the Town at a minimum 1:1 ratio, as defined by USACE through the Section 404 permit. Mitigation might include onsite restoration approved by the USACE, in-lieu fee payment, or purchase of mitigation credits at a USACE approved mitigation bank. Mitigation as required in regulatory permits issued through the USACE and/or CDFW may be applied to satisfy this measure.

Significance after Mitigation. **MM-BIO-6** sets a minimum standard for no-net-loss of aquatic resources for future activities. In addition, impacts on aquatic resources which may be State and/or federally protected wetlands will be minimized to a less than significant level through the implementation of mitigation measures **MM-BIO-1** and **MM-BIO-5** through **MM-BIO-8**. To minimize the level of impact to a less than significant level, mitigation measure **MM-BIO-1** will be implemented prior to initiation of ground disturbing and vegetation clearing activities. To date, only a preliminary assessment of aquatic resources has been conducted for the Proposed Project due to the lack of access to areas away from the public roadway. Prior to initiation of ground disturbing activities, a more complete mapping of aquatic resources in these areas will be completed to support a formal jurisdictional delineation during the permitting phase of the Proposed Project. Should this more complete mapping effort find that there are vernal pools or other aquatic features which are State and/or federally protected wetlands present in or within 250 feet of proposed ground disturbance and/or vegetation clearing footprint(s), then **MM-BIO-6 through MM-BIO-8** will be implemented. Following construction, implementation of **MM-BIO-5** will minimize adverse effects on sensitive communities because of Proposed Project-induced erosion and encroachment of invasive plants by requiring temporarily disturbed areas to be revegetated with native species. In addition, **MM-BIO-26** will be implemented to minimize impacts on State and/or federally protected wetlands to a less than significant level. As shown, implementation of the aforementioned mitigation measures would reduce impacts on state or federally protected wetlands to a less than significant level.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example

during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities would be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced as noted above. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), making the potential to impact State and federally protected wetlands limited. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Proposed Project would result in less than significant on state and federally protected wetlands.

Mitigation. No mitigation required.

3.4.4.4 Impact BIO-4: 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 (No Impact)

Construction, Operation, and Maintenance

A review of wildlife corridor data available in CDFW's California Natural Diversity Database QuickView Tool in BIOS 5 (CDFW 2021a) was performed for the Proposed Project to determine whether the study area is located in an Essential Connectivity Area. The review of these data indicated that a large swath of northern and central Butte County, including much of the study area between Paradise and Chico, is considered Essential Connectivity Area as a great deal of the landscape remains contiguous grassland, oak and pine woodland, and creek riparian corridors. Additionally, Butte Creek, Comanche Creek, and Little Chico Creek and their associated riparian corridors are important facilitators of aquatic and terrestrial wildlife movement.

The Proposed Project would not interfere with movement of any fish or wildlife species, because none of the Proposed Project components involve the introduction of any new permanent impermeable surface barriers to the landscape or waters. Most new infrastructure associated with the Proposed Project would be placed underground, and all perennial channels and their associated riparian zones are to be avoided via HDD installation of pipeline infrastructure. Any above-ground facilities would have a very limited footprint that would not interfere with wildlife movement. Further, none of the Project components would impede the use of wildlife nursery sites. Therefore, no impact would occur.

Mitigation. No mitigation required.

3.4.4.5 Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (No Impact)

Construction, Operation, and Maintenance

The *Butte County General Plan 2030* (Butte County 2012), *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008), and *Chico 2030 General Plan* (City of Chico 2017) include policies to protect water resources, wetland and riparian areas, fish and wildlife habitat, wildlife movement corridors, vegetation communities, open space for the preservation of natural resources,

threatened and endangered species, and aquatic habitats. Additionally, the general plans include specific measures to preserve and protect oak trees and oak woodlands. A review of the policies included in the *Butte County General Plan 2030, Town of Paradise General Plan,* and *Chico 2030 General Plan* resulted in the determination that the Proposed Project activities are consistent with these policies. Therefore, construction, operation, and maintenance of the Proposed Project will not conflict with any local policies or ordinances protecting biological resources, resulting in no impact.

Mitigation. No mitigation required.

3.4.4.6 Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (No Impact)

Construction, Operation, and Maintenance

The Proposed Project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. A portion of the study area overlaps with the Butte Regional Conservation Plan (BRCP), which as of summer 2021 had not been formally adopted, though it was in the final phase of development. Species analyzed and discussed in this document that are covered species under the BRCP include Hoover's spurge, Butte County meadowfoam, hairy Orcutt grass, Butte County checkerbloom, Greene's tuctoria, Conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, valley elderberry longhorn beetle, Central Valley steelhead, Central Valley spring-run Chinook salmon, giant garter snake, western pond turtle, foothill yellow-legged frog, western spadefoot, tricolored blackbird, burrowing owl, California black rail, Swainson's hawk, and white-tailed kite. Proposed Project activities may be covered under the Waste and Wastewater Management Facility Permanent Development Projects component of the BRCP. However, these activities do not conflict with the BRCP, and no impact is anticipated.

Mitigation. No mitigation required.

3.4.5 Impacts Summary

Table 3.4-2 summarizes the biological resources impacts of the Proposed Project.

Table 3.4-2. Biological Resources Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact BIO-1: 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 CDFW or USFWS: Special-Status Plant Species	SI	MM-BIO-1, MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5	S/M

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact BIO-1: 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 CDFW or USFWS: Vernal Pool Crustaceans	SI	MM-BIO-1, MM-BIO-6, MM-BIO-7, MM-BIO-8	S/M
Impact BIO-1: 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 CDFW or USFWS: Valley Elderberry Longhorn Beetle	SI	MM-BIO-1, MM-BIO-9, MM BIO-10, MM-BIO-11, MM BIO-12, MM-BIO-13, MM-BIO-14	S/M
Impact BIO-1: 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 CDFW or USFWS: Special-Status Fishes	SI	MM-BIO-15	S/M
Impact BIO-1: 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 CDFW or USFWS: Special-status Amphibians and Reptiles	SI	MM-BIO-1, MM-BIO-6, MM-BIO-7, MM-BIO-8, MM-BIO-16, MM-BIO-17, MM-BIO-18, MM-BIO-19, MM-BIO-20	S/M
Impact BIO-1: 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 CDFW or USFWS: MBTA and FGC-Protected Birds and Raptors	SI	MM-BIO-1, MM-BIO-21, MM-BIO-22, MM-BIO-23	S/M
Impact BIO-1: 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 CDFW or USFWS: Special-Status Bats	SI	MM-BIO-1, MM-BIO-24	S/M
Impact BIO-1: 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 CDFW or USFWS: American Badger	SI	MM-BIO-1, MM-BIO-25	S/M

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS	SI	MM-BIO-1, MM-BIO-5, MM-BIO-6, MM-BIO-7, MM-BIO-8	S/M
Impact BIO-3: Have a substantial adverse effect on state or federally protected wetlands	SI	MM-BIO-1, MM-BIO-5, MM-BIO-6, MM-BIO-7, MM-BIO-8, MM-BIO-26	S/M
Impact BIO-4: 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	NI	N/A	NI
Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	NI	N/A	NI
Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	NI	N/A	NI

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

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3.5 Cultural Resources

This section describes the environmental setting and regulatory framework for cultural resources in the study area, and it identifies potential direct and indirect impacts and effects of the Proposed Project during construction, operation, and maintenance. The study area for the cultural resources records search encompasses the Proposed Project and the entirety of the Town's area that could be included in the Extended Collection System buffered by a 0.25-mile search radius. This buffer was chosen in order to allow for potential design changes as well as to receive a full characterization of the type and breadth of previously recorded resources in the general vicinity of the Proposed Project. The study area for the pedestrian survey included the Chico WPCP, the length of the Export Pipeline System, and the Core Collection System. The Extended Collection System area was not surveyed at this time.

3.5.1 Environmental Setting

3.5.1.1 Archaeological Context

Researchers have divided the prehistory of central California into a series of cultural periods, reflecting an increasing degree of cultural complexity through time. The Paleoindian Period includes the Pre-Clovis (Unknown to 13,500 Cal B.P.[1]) era during which a hypothesized coastal colonization route allowed people to enter California. In the subsequent Clovis (13,500-10,500 Cal B.P.) era human populations spread within California. The Archaic Period includes the Lower Archaic (10,500-7,500 Cal B.P.). At this time, post-Pleistocene climatic changes cause lakes/wetlands to dry up. Milling technology became common and widespread, indicating a plant food emphasis. The basic social unit remained the extended family. During the Middle Archaic (7,500-2,500 Cal B.P.), climate, habitats, and resources were unstable. The economy became more diversified. The inception of more sedentary living along with population growth and expansion occurred. Technological and environmental factors were dominant themes. In the Upper Archaic (2,500-1,500 Cal B.P.) there was growth of sociopolitical complexity characterized by development of status distinctions based upon wealth.

During the Emergent Period, the Lower Emergent (1500-500 Cal B.P.) witnessed replacement of the dart and atlatl by the bow and arrow. Coastal maritime adaptations flourished. Territorial boundaries were well established. Distinctions in social status linked to wealth became more and more common. Regularized inter-group exchange included abundant, often diverse, materials. The Upper Emergent (500-150 Cal B.P.) is characterized by appearance of a "monetized" clam shell disk bead economy.

[1] Before present (B.P.) is a time scale used in archaeology, geology, and other scientific disciplines to specify when events in the past occurred. Because the "present" time changes, standard practice is to use the year 1950 as the arbitrary origin of the age scale. "Cal" refers to calibrated. Uncorrected, or 'conventional' radiocarbon ages are calculated using an assumption that the concentration of naturally occurring radiocarbon in the atmosphere is constant. Calibration of these conventional ages to calendar years corrects for known minor variations over time in the concentration of atmospheric radiocarbon. This calibration also corrects for an error in the estimate of 'half-life,' or the rate at which radiocarbon decays. While the half-life of radiocarbon is now known to be slightly longer than was estimated when the technique was invented, laboratories continue to report radiocarbon dates using the older, less accurate value, hence the term 'conventional.' Because of this, uncalibrated dates earlier than about 2000 years before present (B.P.) tend to be substantially 'younger' than calibrated dates.

More goods were moving farther in space. The growth of local specializations in production and exchange took place. There was an interpenetration of central and southern exchange systems.

Specific manifestations of local/regional prehistory are defined in the temporal sequence first developed in the Oroville Reservoir area, and subsequently applied to adjacent portions of Butte and Plumas Counties. The earliest archaeological complex, the *Masilla Complex* (ca. 3,000-2,000 B.P.), emphasized the use of handstones and milling slabs for seed grinding. During the subsequent *Bidwell Complex* (ca. 2,000-1,200 B.P.), use of large slate and basalt dart points continued. At this time, people probably lived in relatively permanent villages.

The *Sweetwater Complex* (ca. 1,200-500 B.P.) witnessed the advent of the bow and arrow. Arrows were tipped with Rosegate and Gunther Series projectile points. The steatite industry was elaborated, with cups, platters, bowls, and tubular smoking pipes being produced. A large variety of bone artifacts, and an expanded inventory of shell artifact types occurred as well. Burial patterning shifted from flexed to extended or semi-extended interments.

The *Oroville Complex* (ca. 1500-500 B.P.) represents the protohistoric Maidu/Konkow. At this time, bedrock mortars became central to acorn processing. Hallmark artifacts included incised bird bone tubes, bone gorge hooks, gaming bones, and clamshell disk beads. Desert Series projectile points predominated. Steatite vessels were absent. Several kinds of structures, including large circular dance houses, were constructed. Burials were tightly flexed on their sides, and occasionally placed under stone cairns.

3.5.1.2 Ethnographic Context

By the time of the first Euro-American arrivals in the Project area in the 19th century, a mosaic of "tribelets" occupied Butte County. The foothill Konkow[2] inhabited the foothills region of the northern Sierra. Their historical homeland centers on the river drainages of the North Fork of the Feather River, and roughly encompasses the present political boundaries of Butte County. A related group, the Mechoopda, had densely settled the valley floor near present-day Chico (Kowta 1988, C'ammuden 2020). Additionally, Penutian-speaking Maidu occupied the higher Sierra country in Plumas County. The foothill Konkow continue to live in their ancestral homeland, the Mooretown Rancheria in as well as at the Round Valley Reservation in Mendocino County, where many were forcibly placed by semi-regular military forces and irregular militias after the Gold Rush commenced (C'ammuden 2020). The Mechoopda Indian Tribe of Chico Rancheria ("valley Konkow") maintain a federally recognized tribal government in Chico.

[2] The differentiation between these three groups is recognized based on geographical differences that had spurred cultural differences, with the Mechoopda and others being previously referred to by early Euro-American scholars as "Valley Maidu", the Konkow being "Foothill Maidu" and the Maidu in Plumas County called "Mountain Maidu". These ersatz appellations obscure what was a much more complex social landscape, as the "Konkow" proper were the name of one of the more prominent groups in a mosaic of Maiduan speakers in the foothills (Wells and Chambers 1882). "Konkow" is now often used to name both foothill and valley populations, but not of the Mountain Maidu.

3.5.1.3 Historic Context

By the late 1700s, Spain sought to expand its claims on lands north of Mexico and established a mission in the San Francisco Bay area in 1776. In 1808, the Gabriel Moraga became one of the first Europeans (by ancestry) to traverse the Sacramento Valley, naming many of the rivers he located. Moraga reportedly met a delegation of 52 Maidu at Sutter Buttes. In 1811, Padre Arbella reportedly met Konkow people while travelling up the Sacramento River. In 1821, Captain Louis Arguello located and named the Feather River ("El Rio de las Plumas"). Arguello traded and fought with Indigenous people along his route (C'ammuden 2020, Selverston 2006). Russian explorers may have also reached the mouth of the Feather River. Spanish expeditions mostly explored the Sacramento and San Joaquin River valleys and did not much penetrate the foothills Sierra (Dixon 1905). These early expeditions probably first introduced European-borne diseases, as explorers in the 1830s discovered several abandoned villages with unburied dead (Selverston 2006, Dixon 1905).

American fur trappers soon arrived in the Sierra foothills. Jedediah Smith spent 6 months with the Konkow near the Oroville locality in 1827 (C'ammuden 2020, Selverston 2006). Following Smith's reports, The Hudson Bay Fur Trading Company sent expeditions into the area between 1828 and 1836 (C'ammuden 2020). In 1833, John Work led a 100-person trapping party into the Oroville locality that Selverston (2006) characterizes as a "nomadic pluralistic village with men, women, and children of diverse backgrounds and task-specific specialization." Work noted in his diaries that the Indigenous populations were numerous and densely settled, and other contemporaneous explorers echoed this observation (Selverston 2006, Dixon 1905). Work's party was the source of a widespread epidemic of either smallpox or malaria in 1833 (Cook 1955, 1976).

Further incursions into the territory increased in the 1840s with Mexican agricultural land grants. After John Sutter established his eponymous fort near Sacramento in 1839, non-Hispanics made multiple claims in Butte County by 1844. General John Bidwell was the first to establish a trading post along Chico Creek, and more Anglo settlers followed. Bidwell also employed Mechoopda people at his ranch on the Arroyo Chico grant, within their valley homeland, as well as later at the rich mining site of Bidwell Bar on the Feather River. The Bidwells would come to have a relatively close but paternalistic relationship with the Mechoopda (Mechoopda Indian Tribe of Chico Rancheria 2021). Californios (California-born Spanish) Maximo and Dionisio Zenon Fernandez of Monterey were granted the Fernandez Rancho in the area in 1846. Other agricultural grants in the area include the Boga-Larkin, Farwell, Esquon, Bosquejo, Aguas Firas, and Llano Seco (Mansfield 1918). The United States formally annexed Alta California in 1848.

The Gold Rush officially started with Marshall's discovery of gold at Coloma in 1848. A contemporaneous jackpot strike by John Bidwell on the Feather River brought a flood of immigrants to Butte County. Multiple camps carrying hundreds of miners from all over the world were established along the major rivers and minor tributaries in Butte County every 5 to 10 miles (Selverston 2006). This influx of new settlers brought the Konkow more disease (including cholera, flu, and tuberculosis), alcohol, and displacement from their homes. Large placer mining disrupted aboriginal hunting and fishing patterns and may have wiped out Konkow ancestral sites within a matter of years (Dixon 1905, Selverston 2006, Mechoopda Indian Tribe of Chico Rancheria 2021). The immigrant miners often were disdainful towards the Indigenous inhabitants, yet there was some mutual interest between Indigenous

Konkow and the miners to maintain peace (C'ammuden 2020). The Konkow's general posture towards the intruders was to remain peaceful (C'ammuden 2020, Mansfield 1918).

In 1851, government-to-government treaties were signed which promised to allocate reservation territory and sovereign nations status to the Maidu-speaking tribes, in exchange for ceding land (C'ammuden 2020, Mechoopda Indian Tribe of Chico Rancheria 2021). However, California, having quickly achieved statehood, refused to ratify the treaty due to objections from business leaders and its legislature. What happened instead was a piecemeal and semi-official removal of Natives from their homelands. In 1852, the federal government provided $250,000 to California to establish five reservations of no more than 25,000 acres each. Volunteers in Butte County were mustered over the course of the next decade to force Indians of different tribes together onto these reservations. In 1853, these removals were known as "the Maidu Trail of Tears." Many were taken to Nome Lackee, near Corning, starting in 1854. But by 1859, the reservation was shuttered after allegations of fraud and abuse against its Indian Agent, Vincent E. Geiger (C'ammuden 2020). The 1860s saw depredations towards Natives and subsequent retaliations by them against the settlers. In 1863, a meeting held at Pence's Ranch concluded to remove Indians from Butte County (Mansfield 1918). Many of the foothill Konkow were marched to Round Valley Reservation in Mendocino County along with several other tribes during this decade. The journey was harsh, many died along the way, and still more were killed by the volunteers. Conditions at Round Valley remained desperate for decades after. Their populations depleted and their land base taken, most of the foothill Konkow who remained in the ancestral territory aimed to live quietly and assimilate into the new American society (C'ammuden 2020). However, many of the Mechoopda were not forced into removal due to their relationship with John Bidwell, remaining relatively safe at his holdings. Foothill Konkow folk also made their way to Arroyo Chico to live amongst their valley neighbors (Mechoopda Indian Tribe of Chico Rancheria 2021).

C'ammuden (2020) reports that throughout the end of the 19th century, the foothills Konkow did their best to assimilate into the new American empire while also maintaining familial ties and traditions. Some subsequently followed their kin to Round Valley, but others stayed in Butte County. Some foothill Konkow women married Anglo miners. Two prominent Anglo/Konkow families started during this time include the Gramps and Clark families. These two families secured mineral and land rights on the West Branch and North Fork of the Feather River and were successful miners. Konkow people advised the railroads as to the best locations for travel in their ancestral lands. Konkow served honorably during the Spanish-American War both World Wars, and beyond. Konkow people worked in rail, lumber, and manufacturing, and pursued careers as plumbers, electricians, cannery workers, truck drivers, and more. Many Konkow also moved to urban areas to find opportunity. C'ammuden (2020) writes: "always aware of their Indian heritage as a focal point of connection, these families kept memories alive by celebrating together in ceremonial gatherings as time and money permitted thru (sic) World War I, II, and beyond."

The Concow-Maidu of Mooretown Rancheria is a federally recognized Konkow Tribe. Following the Rancheria Act of 1884, in 1894, James T. Grubbs relinquished 80 acres for the use of Indian families. In 1915, the BIA purchased another 80-acre parcel nearby for 53 members of the Frank Taylor band of Indians, who were on a census list. The Tribe was terminated in 1953, but after subsequent legal battles the tribe was reinstated in 1983. Mooretown Rancheria eventually bought 35 acres just south of Oroville as a land base for their members. The Concow-Maidu own and operate the Feather Falls

Casino, constructed in 1996. Cultural and language preservation is a top priority for the Tribe (Cultural Programs Office of Mooretown Rancheria 2021).

The Mechoopda had a complex relationship with John and Annie Bidwell that was framed in paternalism. Bidwell hired mercenary protection for the Mechoopda during the pogroms of the 1860s, as they provided labor for his enterprises. In 1868, Bidwell married Annie Kennedy, who instituted Christian religious teachings at Arroyo Chico, instituting a church in 1895. John Bidwell died in 1900, and Annie continued to oversee the village, which had fifty people in 1910. Annie Bidwell died in 1918, deeding the land to the Presbyterian Church as trustee for the Native residents. The land was conveyed into federal trust in 1939. The Mechoopda became a federally recognized tribe in 1992. Since 1998, the Mechoopda Tribe has been most interested in securing and developing housing, and rebuilding and restoring their political, economic, and social lives (Mechoopda Indian Tribe of Chico Rancheria 2021).

By 1844, John Bidwell established a trading post at the Arroyo Chico land grant. In 1848, he struck gold at the Feather River, and with his riches, he bought 28,000 acres in both sides of Chico Creek. He founded Chico in 1860 (incorporated 1872). Bidwell was elected to the US Congress in 1864 as a Republican. In Washington D.C., he met and married Annie Bidwell, and in 1868, settled in Chico. There they built the Bidwell Mansion, which would become the center of social and political life in the region. Bidwell helped direct the town's agricultural focus, especially for processing rice, almonds, and fruit. In 1887, Bidwell donated land to found a new state teacher's college, which eventually evolved into California State University, Chico. John and Annie Bidwell's mansion was restored and still stands at the Bidwell Mansion State Historic Park. The Bidwell Mansion represents a fine example of early Victorian-era architecture. It is California Historical Landmark #329 and is listed on the National Register of Historic Places. After John's death in 1900, Annie Bidwell donated 1,900 acres for a public park, which is now the 3,640-acre Bidwell Park, which is one of the country's largest municipal parks. Chico city proper contains a population of 121,219 people as of the 2020 census (Britannica 2021, Chico Chamber of Commerce 2018, California State Parks 2021).

Paradise was named around the 1860s as families began to settle the area following the construction of lumber mills. Legend has it that the area was named when William Leonard and his mill crew came to rest in the shade of ponderosa pines, and, feeling relaxed, he exulted: "boys, this is paradise!" Settlement in the area increased after railroad service was established in 1904. Shortly after the Paradise Irrigation District was established, it was able to supply a regular water supply in all but the most severe droughts. The Paradise Farm Center was founded to develop and use the most modern farming practices. Orchards used the railroad to quickly speed their products to market. After World War II, the population of Paradise swelled from 5,000 to 20,000 by 1966. However, Paradise was not formally incorporated until 1979 (McDonald n.d.). In November 2018, the swift and devastating Camp Fire destroyed much of Paradise, killing 85 people and burning more than 150,000 acres, including 14,000 residences within the Town.

3.5.1.4 Literature Search and Data Limitations

The records search from the Northeast Information Center of the California Historical Resources Information System at California State University, Chico encompasses the entirety of the Proposed Project, all Project alternatives, and a 0.25-mile buffer around the furthest extent of the Proposed

Project and Project alternatives. Outside of the exceptions described further below, the pedestrian survey covered the preferred alternative and consisted of parallel and meandering transects spaced no more than 10 to 15 meters apart, covering 100 percent of the public ROW between the Chico WPCP at the west end and the intersection of Skyway and Neal Road at the east end. Within Paradise, the pedestrian survey was limited to the public ROW alignments of the Core Collection System. Individual parcels were not surveyed.

Due to the lack of private landowner consent to access, approximately 1.1 miles of the proposed pipeline alignment, between Skyway and SR 99 (including the Butte Creek crossing) were not surveyed. Additionally, none of the Project alternatives were subject to pedestrian survey although they were, as noted above, included in the records search. The Extended Collection System area was not surveyed at this time, as noted above, but it was included in the records search.

With several exceptions that are discussed further below, all newly discovered and previously recorded cultural resources were documented or updated on standard State of California Department of Parks and Recreation Series 523 forms. These forms, distributed by the California Office of Historic Preservation, are used for recording and evaluating resources and for nominating properties as California Historical Landmarks, California Points of Historical Interest, and to the California Register of Historical Resources.

There are resources over the age of 45 years of age located in, or traversed by, the study area that would not be significantly impacted during Project construction or implementation. These include SR 99 and the UPRR (both traversed via microtunneling), as well as numerous county and municipal roads, and linear water conveyances. Importantly, the Proposed Project does not include any actions related to the realignment or replacement of roads. Roadwork proposed within the Project area as part of the Project implementation would not result in a change of use for the road or any other transecting resource, nor would the work impact the alignment of the structures. Resurfacing of roadways to the extent required for the implementation of the Proposed Project does not extend beyond that which has already taken place as part of the installation of utilities along these throughfares at multiple stages in the past. During such resurfacing, there have been no impacts to the resources listed above. The process of resurfacing has not change. Therefore, there is little to no potential for these resources to be impacted by the Proposed Project. Because there is no possibility that resources would be impacted by the Proposed Project, these resources are not included as part of the impact analysis and were, therefore, not recorded or evaluated for historic significance under the California Register of Historical Resources (CRHR) or National Register of Historic Places (NRHP) as a part of the cultural resources study.

3.5.1.5 Identification of Historical Resources

The records searches, archival research, and pedestrian survey resulted in the identification of 23 archaeological and built environment resources within the study area, of which 20 were previously determined or newly evaluated as ineligible for inclusion in the NRHP and CRHR during the study, 3 remain unevaluated, and none have been evaluated as eligible, as shown in Table 3.5-1.

Table 3.5-1. Cultural Resources within the Project Area

Count	Site Number (Primary/Trinomial/ Temporary Number)	Age[a]	Type	Previously Recorded (Yes/No)	Individual NRHP/CRHR Eligibility
1	HDR-Paradise-Site-01	H	Historic refuse scatter	N	Not Eligible
2	HDR-Paradise-Site-02	H	Culvert, ditch, and turnouts	N	Not Eligible
3	P-04-001091	P	BRM – not relocated, presumed destroyed	Y	Not Eligible[b]
4	P-04-001779	H	Paradise train depot and associated railroad features	Y	Unevaluated
5	P-04-001780	H	Two historic residences – destroyed in Camp Fire	Y	Not Eligible[b]
6	P-04-003018	H	Historic structure	Y	Unevaluated
7	P-04-003021	H	Historic structure – destroyed in Camp Fire	Y	Not Eligible[b]
8	P-04-003022	H	Historic structure	Y	Unevaluated
9	P-04-004252	H	Complex of nine historic structures – destroyed in Camp Fire	Y	Not Eligible[b]
10	P-04-004253	H	Historic residence – destroyed in Camp Fire	Y	Not Eligible[b]
11	P-04-004254	H	Historic residence – destroyed in Camp Fire	Y	Not Eligible[b]
12	P-04-004255	H	Historic residence – destroyed in Camp Fire	Y	Not Eligible[b]
13	P-04-004367	P	Lithic and groundstone scatter – not relocated	Y	Not Eligible[b]
14	P-04-004368	P	Lithic and groundstone scatter – not relocated	Y	Not Eligible[b]
15	P-04-004369	P	Lithic and groundstone scatter	Y	Not Eligible
16	P-04-004370	P	BRM, groundstone scatter – not relocated	Y	Not Eligible[b]
17	P-04-004371	P	Flaked stone and groundstone scatter – not relocated	Y	Not Eligible[b]
18	P-04-004372	P	Groundstone scatter – not relocated	Y	Not Eligible[b]
19	P-04-004373	P	Groundstone scatter – not relocated	Y	Not Eligible[b]
20	P-04-004374	P	BRM – not relocated	Y	Not Eligible[b]
21	Bridge 12C-0108	H	Little Chico Creek/Taffee Avenue Bridge, ca. 1931	N	Not Eligible
22	Bridge 12C-0109	H	Little Chico Creek/Crouch Avenue Bridge, ca. 1960	N	Not Eligible
23	Bridge 12C-0179	H	Comanche Creek/Crouch Avenue Bridge, ca. 1940	N	Not Eligible

[a] H = Historical; P = Prehistoric; M = Multi-component.

[b] Resources destroyed in the Camp Fire or not relocated during the survey are considered not eligible for NRHP and CRHR listing.

3.5.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on cultural resources. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.5.2.1 Federal

National Historic Preservation Act

Section 106 of the National Historic Preservation Act requires federal undertakings to consider the effects of the action on historic properties. Historic properties are defined by the Advisory Council on Historic Preservation regulations (36 Code of Federal Regulations [CFR] Part 800) and consist of any prehistoric or historical archaeological site, building, structure, historic district, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that meet the National Register criteria (36 CFR Part 800.16[l]).

To determine whether an undertaking could affect NRHP-eligible properties, cultural resources (including archaeological, historical, and architectural properties) must be inventoried and evaluated for listing in the NRHP.

For projects involving a lead federal agency, cultural resource significance is evaluated in terms of eligibility for listing in the NRHP. For a property to be considered for inclusion in the NRHP, it must be at least 50 years old and meet the criteria for evaluation set forth in 36 CFR Part 60.4.

The Proposed Project will be held to the standards set forth by the National Historic Preservation Act.

Antiquities Act

The Antiquities Act of 1906 (54 USC 320301–320303) provides for fines or imprisonment of any person convicted of appropriating, excavating, injuring, or destroying any historic or prehistoric ruin or monument or other object of antiquity that falls under the jurisdiction of the federal government.

The Proposed Project will be held to the standards set forth by this act.

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 (16 USC 470aa et seq.) amended the Antiquities Act, set a broad policy stating that archaeological resources are important to the nation and should be protected, and required special permits before the excavation or removal of archaeological resources from public or Indian lands.

The Proposed Project will be held to the standards set forth by this act.

Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001 et seq.) was intended to ensure the protection and rightful disposition of Native American cultural items and burials located on federal or tribal trust lands, and in the possession or control of the federal government. The act requires that an inventory of Native American human remains and funerary objects must be compiled by federal funded agencies and all museums and educational institutions receiving federal funds.

Also, all Indian tribes and representatives identified by the NAHC must be consulted whenever archaeological investigations encounter, or are expected to encounter, Native American cultural items or when such items are unexpectedly discovered on federal or tribal lands. Excavation or removal of

any such items also must be done under procedures required by the Archaeological Resources Protection Act.

The Proposed Project will be held to the standards set forth by this act.

The Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation
These standards, effective as of 1983, provide technical advice for archaeological and historic preservation practices. Their purposes are (1) to organize the information gathered about preservation activities; (2) to describe results to be achieved by federal agencies, states, and others when planning for the identification, evaluation, registration, and treatment of historic properties; and (3) to integrate the diverse efforts of many entities performing historic preservation into a systemic effort to preserve the nation's culture heritage (48 CFR 44716).

The Proposed Project will be held to these standards.

The Secretary of the Interior's Standards for Rehabilitation
These standards were established by the Secretary of the Interior in 1986 as a way to homogenize rehabilitation efforts of nationally significant historic properties and buildings. These standards pertain to actions involved in returning a property to a state of utility through repair or alteration. This allows for the preservation of historic and cultural values of the property, while giving it an efficient contemporary use (36 CFR 67).

The Proposed Project will be held to these standards.

The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings
The Standards for the Treatment of Historic Properties are a compilation of 34 guidelines to promote the responsible preservation of U.S. historic cultural resources. The standards specifically address preservation, rehabilitation, restoration, and reconstruction of historic materials. The standards are not intended to be the sole basis for decision-making in regard to whether a historic property should be saved, but rather are intended to provide consistency in conservation and restoration practice (36 CFR 68).

The Proposed Project will be held to the standards.

3.5.2.2 State

CEQA Statute and Guidelines
CEQA and the CEQA Guidelines include procedures for identifying, analyzing, and disclosing potential adverse impacts to cultural resources.

CEQA Guidelines Section 15064.5(a) define a "historical resource" as including the following:

- A resource listed in, or eligible for listing in, the CRHR;
- A resource listed in a local register of historical resources as defined at PRC Section 5020.1(k);
- A resource identified as significant in a historical resources survey meeting the requirements of PRC Section 5024.1(g); or

- Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California (Generally, a resource is considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the CRHR).

A project that causes a "substantial adverse change" in the significance of a historical resource may have a significant effect on the environment (CEQA Guidelines Section 15064.5[b]). CEQA Guidelines Section 15064.5(b)(1) defines "substantial adverse change" as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired."

For archaeological sites, the CEQA Guidelines Section 15064.5l(1) requires that the lead agency first determine whether the site is a "historical resource" as defined in Section 15064.5(a) (defined above). If the site qualifies as a historical resource, potential adverse impacts must be considered in the same manner as a historical resource, as described below (CEQA Guidelines Section 15064.5[c[[2]). If the archaeological site does not qualify as a historical resource but does qualify as a "unique archaeological resource," then the archaeological site is treated in accordance with CEQA PRC Section 21083.2, which places certain limits on permissible mitigation measures (CEQA Guidelines Section 15064.5[c][3]). In practice, most archaeological sites that meet the definition of a unique archaeological resource would also meet the definition of a historical resource.

Mitigation measures are discussed in CEQA Guidelines Section 15126.4. Generally, by following the Secretary of the Interior's Standards for the Treatment of Historic Properties or the Secretary of the Interior's Standards for Rehabilitation, impacts can be considered as mitigated to a less-than-significant level per CEQA Guidelines Section 15064.5(b). For archaeological resources, CEQA Guidelines Section 15126.4(b)(3) provides that a public agency should, whenever feasible, seek to avoid damaging effects on any historical resource of an archaeological nature.

The Proposed Project will be held to the regulatory requirements imposed by CEQA Statutes and further explained in CEQA Guidelines.

California Register of Historical Resources: Public Resources Code Section 5024.1

The CRHR includes resources that are listed in or formally determined eligible for listing in the NRHP, as well as some designated California State Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR.

The Proposed Project will be held to the requirements of PRC Section 5024.1.

California Native American Heritage Commission: Public Resources Code Sections 5097.91 through 5097.98

The California NAHC identifies and catalogs places of special religious or social significance to Native Americans and known graves and cemeteries of Native Americans on private lands. PRC Section 5097, as amended, requires consultation with the California NAHC whenever Native American graves are

found. When the California NAHC is notified of human remains, it will immediately notify those persons it believes to be the most likely descendants.

The Proposed Project will be held to the requirements of PRC Sections 5097.91 through 5097.98.

Unique Archaeological Resource

PRC Section 21083.2 defines a unique archaeological resource as follows.

An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
- Is directly associated with a scientifically recognized important prehistoric or historic event or person (PRC Section 21083.2).

In most situations, resources that meet the definition of a unique archaeological resource also meet the definition of a historical resource. As a result, it is current professional practice to evaluate cultural resources for significance based on their eligibility for listing in the CRHR.

The Proposed Project will be held to the requirements of PRC Section 21083.2.

Health and Safety Code Section 7050.5: Removal of Human Remains

Sections 7050.5(b) and 7050.5(c) of the Health and Safety Code pertain to the discovery of human remains in a location outside a dedicated cemetery. The statute requires that, in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there will be no further excavation or disturbance of the site, or any nearby area reasonably suspected to overlay adjacent remains, until the County Coroner has examined the remains. If the coroner determines, or has reason to believe, the remains to be those of a Native American, the coroner will contact the NAHC by telephone within 24 hours. After notification, NAHC will follow the procedures outlined in PRC Section 5097.98, which includes notification of most likely descendants, if possible, and recommendations for treatment of the remains. The most likely descendants will have 24 hours after notification by the NAHC to make their recommendation.

The Proposed Project will be held to the requirements of Health and Safety Code Section 7050.5.

California Graves Protection and Repatriation Act

Sections 8010 to 8011 of the Health and Safety Code establish a state repatriation policy that is consistent with and facilitates implementation of the federal Native American Graves Protection and Repatriation Act.

The Proposed Project will be held to the requirements of this act.

3.5.2.3 Regional and Local

Town of Paradise General Plan

The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) includes the following policies and implementation measures related to cultural resources that are relevant to the Proposed Project:

- **Policy OCEP-36**: The *Land Use Constraints Diagram* identifies areas of potential archaeological sensitivity. Proposed development or public works projects within this area will be required to undertake an archaeological survey prior to project approval. Proposed projects outside this area, in locations that have not been significantly disturbed, will be referred to the California Archaeological Inventory, Northeast Information Center, California State University, Chico to undertake an archaeological survey prior to project approval upon recommendation by the Center.
- **Implementation Measure OCEI-18**: Require compliance of all development projects with Appendix K (archeological impacts) of the *Guidelines for Implementation of the California Environmental Quality Act*.
- **Implementation Measure OCEI-19**: When an archaeological survey is required by the Town or recommended by the California Archaeological Inventory, Northeast Information Center, the survey will be undertaken by a qualified professional archaeologist who is certified by the Society of Professional Archaeologists or has equivalent qualifications.
- **Implementation Measure OCEI-20**: Should any historic or pre-historic artifacts be discovered during construction, all work will cease until a qualified professional archaeologist views the site, provides recommendations and gives clearance to continue.

The Proposed Project will be held to the goals and objectives in the *Town of Paradise General Plan*.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following policies related to cultural resources that are relevant to the Proposed Project:

- **Policy COS-P14.1**: Historic and cultural resources management will be coordinated with nearby jurisdictions, including the five incorporated municipalities, the Lassen and Plumas National Forests, other planning and regulatory agencies, and local tribes.
- **Policy COS-P14.2**: As part of CEQA and National Environmental Policy Act (NEPA) projects, evaluations of surface and subsurface cultural resources in the county will be conducted. Such evaluations should involve consultation with the Northeast Information Center.
- **Policy COS-P14.3**: The Northeast Information Center and appropriate historic and preservation professionals will be consulted when considering reuse of historic sites.
- **Policy COS-P15.1**: Areas found during construction to contain significant historic or prehistoric archaeological artifacts will be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation. Historic or prehistoric artifacts found during construction shall be examined by a qualified consulting archaeologist or historian to determine their significance and develop appropriate protection and preservation measures.

- **Policy COS-P15.2**: Any archaeological or paleontological resources on a development project site will be either preserved in their sites or adequately documented as a condition of removal. When a development project has sufficient flexibility, avoidance and preservation of the resource will be the primary mitigation measure.
- **Policy COS-P15.3**: Demolition permit application on potentially important historic sites will be subject to discretionary review.
- **Policy COS-P16.2**: Impacts to the traditional Native American landscape will be considered during California Environmental Quality Act or National Environmental Protection Act review of development proposals.
- **Policy COS-P16.3**: Human remains discovered during implementation of public and private development projects will be treated with dignity and respect. Such treatment will fully comply with the federal Native American Graves Protection and Repatriation Act and other appropriate laws.
- **Policy COS-P16.4**: If human remains are located during any ground disturbing activity, work will stop until the County Coroner has been contacted, and, if the human remains are determined to be of Native American origin, the NAHC and most likely descendant have been consulted.
- **Policy COS-P16.5**: Consistent with State local and tribal intergovernmental consultation requirements such as Senate Bill (SB) 18, the County will consult with Native American tribes that may be interested in proposed new development projects and land use policy changes.

The Proposed Project will be held to the policies in the *Butte County General Plan 2030*.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following policies related to cultural resources that are relevant to the Proposed Project:

- **Policy CRHP-1.1, Historic Preservation Program**: Maintain a comprehensive Historic Preservation Program that includes policies and regulations which protect and preserve the archeological, historical, and cultural resources of Chico.
- **Policy CRHP-2.3, Demolition as Last Resort**: Limit the demolition of historic resources to an act of last resort, to be permitted only if: 1) rehabilitation of the resource is not feasible; 2) demolition is necessary to protect the health, safety, and welfare of its residents; or 3) the public benefits outweigh the loss of the historic resource.
- **Policy CRHP-3.1, Partnerships to Preserve Heritage Resources**: Foster partnerships with interested parties to preserve heritage resources.

The Proposed Project will be held to the policies in the *Chico 2030 General Plan*.

City of Chico Historic Preservation Ordinance

The Historic Preservation Ordinance of the City of Chico's Municipal Code (Chapter 19.37) specifically affords protection for properties listed on the City of Chico's Historic Resources Inventory and provides a mechanism to add historic properties to the Inventory through Landmark Overlay zoning districts. The ordinance also provides development incentives to owners of designated historic property and establishes a number of exempt activities such as ordinary maintenance and repair.

The Proposed Project will be held to the requirements of this ordinance.

3.5.3 Method of Analysis

This section describes the methods used to determine impacts of the Proposed Project on cultural resources.

3.5.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on cultural resources if it would:

- **Impact CUL-1:** Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5.
- **Impact CUL-2:** Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5.
- **Impact CUL-3:** Disturb any human remains, including those interred outside of formal cemeteries.

3.5.3.2 Approach to Analysis

Construction, Operation, and Maintenance

Impacts on cultural resources were identified qualitatively based on the Proposed Project's potential to affect previously recorded and newly discovered historical resources, archaeological resources, and human remains.

Under CEQA, a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment. Substantial adverse change in the significance of a historical resource is defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. The significance of a historical resource would be significantly impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the NRHP, the CRHR, or a local register of historic resources pursuant to PRC Section 5020.1(k).

As discussed in Section 3.5.1.4, Literature Search and Data Limitations, and Section 3.5.1.5, Identification of Historical Resources, cultural resources in the study area were identified through records searches from the Northeast Information Center of the California Historical Resources Information System at California State University, Chico; archival research; and the pedestrian survey.

The analysis of environmental effects focuses on foreseeable changes to cultural resources in the context of effects listed in Section 3.5.3.1, CEQA Significance Criteria. The analysis considers the Core Collection System, Export Pipeline System, and Extended Collection System, as appropriate, in the context of construction, operation, and maintenance.

3.5.4 Impact Analysis

This section describes the potential environmental effects on cultural resources as a result of implementation of the Proposed Project. It includes an analysis of the Proposed Project's potential to significantly impact previously recorded and newly discovered prehistoric and historic-era archaeological sites and built-environment resources previously recorded and identified during the field evaluation. Such built-environment resources include prehistoric lithic scatters, bedrock milling features, historic refuse deposits and historic-era structures. Project development could significantly impact resources through ground-disturbing activities, such as open trenching, HDD and micro tunnelling technologies, excavation, and grading, which all have the potential to damage or destroy known and unknown cultural resources that may be present on or below the ground surface, particularly in undeveloped areas.

3.5.4.1 Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5 (Less than Significant Impact)

Construction

Impacts on a historical resource could be associated with construction of the Proposed Project. Excavation and ground disturbing activities as a result of these construction activities have the potential to impact previously recorded, newly identified, and heretofore unknown cultural resources in the study area which, upon further assessment, may constitute a historical resource pursuant to section 15064.5.

Bridges 12C-0108 (1931), 12C-0109 (1960), and 12C-0179 (1940) would all be traversed by the Export Pipeline System at the western end of the Proposed Project near the Chico WPCP. They were each previously evaluated by Caltrans for significance according to CEQA and NRHP criteria. All three bridges are listed in the *Caltrans Bridge Inventory* of local agency bridges as "5. Bridge not eligible for NRHP;" thus, the bridges are not "historical resources" per CEQA Guidelines and will not be impacted by the proposed HDD trenchless techniques for pipeline installation.

Buildings P-04-001780, P-04-003021, P-04-004252, P-04-004253, P-04-004254, and P-04-004255 were all previously recorded within the Core Collection System and Extended Collection System areas but destroyed in the 2018 Camp Fire and are no longer extant. Buildings P-04-001779, P-04-003018, and P-04-003022 were all previously recorded as well and are within the Core Collection System area. None of the eight buildings, extant and non-extant, have been previously evaluated for CRHR and/or NRHP significance. As noted above, an exhaustive built environment inventory and evaluation of the Paradise sewer service area was not conducted. Impacts associated with the Core Collection System and Extended Collection System would be confined to the street side of the public ROW; therefore, the Proposed Project has no potential to impact any built environment resources.

Eight prehistoric archaeological sites, P-04-001091 P-04-004367, P-04-004368, P-04-004370, P-04-004371, P-04-004372, P-04-004373, and P-04-004374 were all previously recorded but not relocated during pedestrian survey for the Proposed Project. This is likely due to a variety of factors. First, the general vicinity of Paradise has been substantially altered since the 2018 Camp Fire. The aftermath of the fire, including both the suppression effort as well as the post-fire cleanup, resulted in drastic changes to ground visibility and local topography. It is likely that these efforts either destroyed or

completely obscured any surface manifestation of the site (P-04-001091) within the Core Collection System area.

Additionally, seven of the previously recorded prehistoric sites (P-04-004367, -004368, -004370, -004371, -004372, -004373, and -004374) were all recorded during construction monitoring along Skyway for a utility trenching project. Field notes associated with this work noted that the observed artifacts were generally collected from spoil piles during monitoring and, following documentation, were placed “out of the ROW” thus removing them from the study area. Careful examination of each of the eight site locations did not reveal any surficial artifacts and the sites are assumed to no longer be extant and would not be impacted by the Proposed Project.

The remaining three sites consist of a prehistoric lithic scatter (P-04-004369) within the Core Collection System, a historic-era refuse scatter (HDR-Paradise-Site-01) along Skyway, and a small historic-era feature complex consisting of a culvert, short ditch, and two irrigation turnouts (HDR-Paradise-Site-02) adjacent to Midway Road. None of the three sites exhibit substantial archaeological deposits, extensive artifact variability, significant architectural features, or association with important persons or events. The lack of artifact densities and variability demonstrates the low potential to yield information important to the prehistory or history of the local area, California, or the nation. Considered individually, none of the evaluated prehistoric sites produced assemblages that could contribute to unique patterns of human occupation or refine existing cultural chronologies. Considered collectively at the landscape level, the extant prehistoric site in the study area contains redundant information better represented at recorded sites outside of the study area. The historic site likewise contained relatively sparse and disturbed archaeological deposits, consisting of fragments of bottles, metal containers, and other household consumables and hardware.

Based on the absence/presence of the previously recorded resources and the significance evaluations, impacts on historical resources from Project construction are considered less than significant.

Mitigation. *No mitigation required.*

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would occur in previously disturbed areas (primarily within paved roads), resulting in no potential to impact previously undisturbed and unknown cultural resources. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Proposed Project would result in a less than significant impact on historical resources.

Mitigation. No mitigation required.

3.5.4.2 Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5 (Less than Significant Impact with Mitigation Incorporated)

Construction

Although no “unique” or “historic” cultural resources (as per CEQA definitions) have been documented on the Project site, there is a potential that unrecorded cultural resources could be unearthed or otherwise discovered during ground-disturbing and construction activities associated with the Export Pipeline System (microtunneling, or the HDD entry/exit pits), Core Collection System and Extended Collection System. The Project is located in a region where significant prehistoric and historic-era cultural resources have been documented. Subsurface disturbances during construction of the Core or Extended Collection Systems or Export Pipeline Systems could potentially destroy or damage undiscovered prehistoric or historic cultural resources. If these resources were to represent “historical resources” as defined by CEQA, a significant impact would occur. If such resource were determined to be unique or historic, a significant impact would occur.

Mitigation. To minimize potentially significant impacts related to unrecorded cultural resources (including archeological resources) during construction of the Proposed Project to a less than significant level, mitigation measures **MM-CUL-1** and **MM-CUL-2** will be implemented.

MM-CUL-1: Targeted Archaeological Monitoring. As described above, the archaeological survey did not include the proposed Export Pipeline System between Midway Road and Skyway due to lack of landowner consent to access. Additionally, although not fully relocated, previous monitoring work along Skyway recorded a series of sparse lithic scatters demonstrating an elevation sensitivity for near-surface archaeological sites. Therefore, based on the lack of previous survey coverage and the number of previously documented archaeological sites in the vicinity, the Project alignment between Midway Road (on the west) and the intersection of Skyway and Neal Road (on the east) will be subject to monitoring during initial ground disturbance by a qualified professional archaeologist. The archaeologist will monitor initial trenching of previously undisturbed deposits, but the monitoring may vary based on the rate of excavation, the materials excavated, and the absence/presence of artifacts and/or cultural features. In the event of an inadvertent discovery during monitoring, the procedures noted in **MM-CUL-2** will be implemented.

MM-CUL-2: Follow Inadvertent Discovery Procedures. If unrecorded cultural resources are encountered during Project-related ground-disturbing activities, even in the absence of an onsite archaeological monitor, a qualified cultural resources specialist will be contacted to assess the potential significance of the find. If an inadvertent discovery of cultural materials (e.g., unusual amounts of shell, animal bone, bottle glass, ceramics, structure/building remains) is made during Project-related construction activities, ground disturbances in the area of the find will be halted, and a qualified professional archaeologist will be notified regarding the discovery. The archaeologist will determine whether the resource is potentially significant per the CRHR and develop appropriate mitigation, such as avoidance or data recovery.

Significance after Mitigation. Implementation of **MM-CUL-1** and **MM-CUL-2** would reduce potentially significant impacts resulting from inadvertent damage or destruction of unknown cultural resources during construction to a less than significant level because appropriate procedures would be followed to ensure that any unanticipated cultural resources discovered during Project-related ground-disturbing activities are appropriately handled and documented and that all appropriate parties are contacted and coordinated with in a timely manner, in order to either avoid or minimize impacts on the cultural resources.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities would be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced as noted above. Operation and maintenance activities would occur in previously disturbed areas (mostly within paved roads), resulting in no potential to impact previously undisturbed and unknown cultural resources. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Proposed Project would result in a less than significant impact on archeological resources.

Mitigation. No mitigation required.

3.5.4.3 Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries (Less than Significant Impact)

Construction

No evidence for prehistoric or early historic interments was found in the Proposed Project study area in surface contexts and none of the archaeological sites as described were associated with human remains. However, this does not preclude the existence of buried human remains. Furthermore, human remains are known to occur in the region surrounding the Proposed Project site. California law recognizes the need to protect historic-era and Native American human burials, skeletal remains, and items associated with Native American interments from vandalism and inadvertent destruction.

Although much of the study area has been previously disturbed by previous development, it is possible that previously unknown buried human remains could be unearthed and damaged or destroyed during excavation activities associated with construction of the Export Pipeline System, Core Collection System, and Extended Collection System such as grading and excavation related to the trenching, or microtunneling and HDD related to the trenchless crossings. Damage to or destruction of human remains during Project construction or other Proposed Project-related activities would be considered a significant impact. However, in accordance with the California Health and Safety Code Sections 7050.5

and 7052, PRC Section 5097.98, and CEQA Section 15064.5; if human remains are uncovered during ground-disturbing activities, all such activities near the find will be halted immediately, and the Town's designated representative will be notified. The Town's representative will immediately notify the Butte County Coroner and a qualified professional archaeologist. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or State lands (Health and Safety Code Section 7050.5[b]). If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code Section 7050[c]). The Town's responsibilities for acting upon notification of a discovery of Native American human remains are identified in detail in PRC Section 5097.9. The Town or its appointed representative and the professional archaeologist will contact the Most Likely Descendent, as determined by the NAHC, regarding the remains. The Most Likely Descendent, in cooperation with the Town and the landowner, will determine the ultimate disposition of the remains. Since the Proposed Project will comply with the California Health and Safety Code, the PRC, and CEQA, impacts on human remains would be less than significant, and no mitigation is required.

Mitigation. *No mitigation required.*

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced as noted above. Operation and maintenance activities would occur in previously disturbed areas (mostly within paved roads), resulting in no potential to impact previously undisturbed and unknown cultural resources, including human remains. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Proposed Project would result in a less than significant on human remains.

Mitigation. No mitigation required.

3.5.5 Impacts Summary

Table 3.5-2 summarizes the cultural resources impacts of the Proposed Project.

Table 3.5-2. Cultural Resources Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5	LTS	N/A	LTS
Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5	SI	MM-CUL-1, MM-CUL-2	S/M
Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries	LTS	N/A	LTS

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

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3.6 Energy

This section describes the environmental setting and regulatory framework for energy resources, and it identifies direct and indirect impacts of the Proposed Project during construction, operation, and maintenance. In particular, the energy analysis focuses on the increased demand for electricity and transportation fuel as a result of the Proposed Project's construction, operation, and maintenance. None of the Project components are anticipated to consume natural gas, and therefore, a discussion of natural gas is not included in this section. The study area for energy impacts is Butte County.

3.6.1 Environmental Setting

Given the nature of the proposed project, the following discussion focuses on the two sources of energy that are most relevant to the project – electricity for the proposed Project operations and transportation fuel for vehicle trips associated with the Project construction.

3.6.1.1 Statewide Energy Use

In 2019, total energy usage in California was approximately 7,814 trillion British Thermal Units (BTUs) (US Energy Information Administration 2021a). Transportation accounted for 39.3 percent of California's total energy usage, industrial for 23.2 percent, commercial for 18.9 percent, and residential for 18.7 percent (US Energy Information Administration 2021b).

Total electricity generated in California is the sum of all utility scale, in-state generation, and net electricity imports. In 2020, total electricity generation for California was 272,576 gigawatt hours (GWh), down 2 percent, or 5,356 GWh, from 2019 (California Energy Commission [CEC] 2021a). California's non-carbon dioxide emitting electric generation categories (nuclear, large hydroelectric, and renewables) accounted for 51 percent of its in-state generation, compared to 57 percent in 2019 (CEC 2021a). The change is directly attributable to the significantly reduced hydroelectric generation, some 44 percent lower than 2019 generation levels, as drought conditions returned to the state. In 2020, net imports of electricity increased by about 6 percent (4,435 GWh) to 81,663 GWh, partially offsetting the decreased output from California's hydroelectric power plants (CEC 2021a).

The transportation sector is responsible for the largest percentage of the energy consumed in the state. In 2020, Californians consumed approximately 12.5 billion gallons of gasoline and 2.9 billion gallons of diesel fuel (California Department of Tax and Fee Administration 2021a, 2021b). In 2020, gasoline consumption was down 18.8 percent (2.9 billion gallons) from 2019 due to the COVID-19 pandemic (California Department of Tax and Fee Administration 2021a). Diesel fuel consumption in 2020 was down 3 percent (0.1 billion gallons) from 2019 (California Department of Tax and Fee Administration 2021b).

3.6.1.2 Regional Energy Use

Electricity consumption in Butte County in 2020 totaled approximately 1,385 million kilowatt hours (kWh) (CEC 2021b). Of the total electricity consumed in Butte County, approximately 736 million kWh were consumed by residential uses, while 649 million kWh were consumed by non-residential uses.

According to the *BCAG 2020 RTP Travel Demand Model: Model Development Report* (BCAG 2020a), the VMT in Butte County in 2020 was 4,343,919. The Emissions Factor Model (EMFAC 2021 Version: v1.0.1) was used to estimate the transportation fuel consumed in Butte County based on the VMT. In 2020, approximately 0.35 million gallons of gasoline and 0.15 million gallons of diesel were consumed in Butte County (EMFAC 2021).

3.6.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on energy. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.6.2.1 Federal

Corporate Average Fuel Economy

The Corporate Average Fuel Economy standards were first introduced by Congress in 1975 to help reduce the country's dependence on foreign oil. The National Highway Traffic and Safety Administration (NHTSA) sets and enforces the Corporate Average Fuel Economy standards. NHTSA sets the Corporate Average Fuel Economy standards for passenger cars and for light trucks (collectively, light-duty vehicles), and separately sets fuel consumption standards for medium- and heavy-duty trucks and engines. In August 2021, NHTSA released its Notice of Proposed Rulemaking offering new standards for the 2024-2026 model years. The new standards would increase fuel efficiency 8 percent annually for model years 2024-2026 and increase the estimated fleetwide average by 12 miles per gallon for model year 2026, relative to model year 2021. President Biden issued EO 14037 on August 5, 2021, which requires NHTSA to develop fuel economy standards for passenger cars and light duty trucks for model years 2027-2030. In addition, NHTSA will develop medium and heavy-duty fuel efficiency standards beginning as early as model year 2027. At the time of this PEIR preparation, new standards have not been adopted.

The Proposed Project will be held to the Corporate Average Fuel Economy standards.

National Energy Policy Act of 2005

The National Energy Policy Act of 2005 set equipment energy efficiency standards. The law seeks to reduce reliance on non-renewable energy resources and provide incentives to reduce current demand on these resources. The Renewable Fuel Standard program was created under the National Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. This Renewable Fuel Standard program under this act, commonly referred to as "RFS1", required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012.

The standards set forth by this act are obsolete and would not apply to the Proposed Project.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 is designed to achieve energy security in the United States by increasing renewable fuel production, improving energy efficiency and performance, protecting consumers, improving vehicle fuel economy, and promoting research on GHG capture and storage. The Renewable Fuel Standard program under this act, commonly referred to as "RFS2",

expanded the original Renewable Fuel Standard program and increased the volume of renewable fuel required to be blended into transportation fuel to 36 billion gallons by 2022.

The Proposed Project will be held to the standards set forth by this act.

3.6.2.2 State

California Energy Commission

The Warren-Alquist Act of 1974 established the CEC, which is California's primary energy policy and energy planning agency. CEC's core responsibilities include advancing the state's energy policy, achieving energy efficiency, investing in energy innovation, developing renewable energy, transforming transportation, overseeing energy infrastructure, and preparing for energy emergencies.

The Proposed Project will be held to the programs administered by the CEC.

Energy Action Plan

The California Public Utilities Commission approved the State's first Energy Action Plan in 2003 followed by the Energy Action Plan II in 2005. The current plan, Energy Action Plan II, is California's principal energy planning and policy document. The plan examines the state's ongoing actions in the context of global climate change, describes a coordinated implementation plan for state energy policies, and identifies specific actions to ensure that California's energy resources are adequate, reliable, and reasonably-priced.

The Proposed Project will be held to the principles set forth in Energy Action Plan II.

Greenhouse Gas Regulations

In 2006, the Legislature enacted AB 32, the California Global Warming Solutions Act of 2006, which required California to reduce its GHG emissions to 1990 levels by 2020. In 2016, the Legislature enacted SB 32, requiring California to reduce its GHG emissions to 40 percent below 1990 levels by 2030. In November 2017, ARB adopted *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan) (ARB 2017) to reflect the 2030 target as codified by SB 32. The 2017 Scoping Plan was prepared to guide the development of statewide policies and regulations for the reduction of GHG emissions. Many of the policy and regulatory concepts identified in the 2017 Scoping Plan focus on increasing energy efficiencies and the use of renewable resources and reducing the consumption of petroleum-based fuels (such as gasoline and diesel). As such, the state's GHG emissions reduction planning framework creates co-benefits for energy-related resources.

The Proposed Project will be held to the standards set forth in SB 32 and policies contained in the 2017 Scoping Plan.

Renewable Energy Regulations

SB 1078, signed into law in 2002, established the Renewable Portfolio Standard Program and required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by December 31, 2017. In 2006, SB 107 changed the target date to 2010.

In March 2011, the California Legislature enacted SB X1-2, which required utilities to generate 33 percent of their electricity from eligible renewable energy resources by 2020. Specifically, SB X1-2 set a

three-stage compliance period: 20 percent by December 31, 2013, 25 percent by December 31, 2016, and 33 percent by December 31, 2020. In 2015, SB 350 increased the Renewable Portfolio Standard to 50 percent by the year 2030. In 2018, SB 100 was signed into law, which again increased the Renewable Portfolio Standard to 60 percent by 2030. EO B-55-18 issued in 2018 established a new statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.

The Proposed Project will be held to the standards in SB 100 and goals in EO B-55-18.

Assembly Bill 1007

AB 1007, which was signed into law in September 2005, required CEC to prepare a statewide plan to increase the use of alternative fuels in California. In accordance with AB 1007, CEC prepared the State Alternative Fuels Plan. The plan presents strategies and actions California must take to increase the use of nonpetroleum fuels in a manner that minimizes the costs to California and maximizes the economic benefits of in-state production.

The Proposed Project will be held to the strategies in AB 1007.

Assembly Bill 1493

AB 1493, enacted in 2002, required ARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles whose primary use is non-commercial personal transportation in the state. AB 1493 required that ARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years.

The Proposed Project will be held to the standards in AB 1493.

Advanced Clean Cars

In 2012, ARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards called Advanced Clean Cars.

The Proposed Project will be held to the principles of this program.

In-Use Off-Road Diesel-Fueled Fleets Regulation

All self-propelled off-road diesel vehicles 25 horsepower or greater used in California (such as bulldozers, loaders, backhoes, forklifts, etc.) and most two-engine vehicles (except on-road two-engine sweepers) are subject to the Regulation for In-Use Off-Road Diesel-Fueled Fleets (Off-Road Diesel Regulation). Adopted by the ARB on July 26, 2007, this regulation aims to reduce NO_X and particulate matter from off-road diesel vehicles operating within California by retiring, replacing, or repowering older engines, or installing diesel exhaust retrofits. Vehicles or engines subject to this regulation must limit their idling to five minutes. While the goal of this regulation is primarily to reduce emissions from diesel vehicles, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

The Proposed Project will be held to the standards set forth by this regulation.

Sustainable Communities Strategy

The Sustainable Communities and Climate Protection Act of 2008, or SB 375, requires metropolitan planning organizations to include a Sustainable Communities Strategy in its regional transportation plan. The main focus of the Sustainable Communities Strategy is to plan for growth in a fashion that will ultimately reduce GHG emissions, but the strategy is also a part of a bigger effort to address other development issues within the general vicinity, including transit and VMT, which influence the consumption of petroleum-based fuels.

The Proposed Project will be held to the Sustainable Communities Strategy.

3.6.2.3 Regional and Local

Town of Paradise General Plan

The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) includes the following goals and objectives related to energy that are relevant to the Proposed Project:

- **Goal OCEG-10**: Maximize Paradise's energy efficiency.
- **Goal OCEG-11**: Become a regional leader in the approach to energy conservation.
- **Objective OCEO-14:** Significantly reduce town-wide energy consumption.

The Proposed Project will be held to the goals and objectives in the *Town of Paradise General Plan*.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following policies related to energy that are relevant to the Proposed Project:

- **Policy H-P6.1**: Continue to implement state energy efficiency standards.
- **Policy COS-P3.4**: Solar-oriented and renewable design and grid-neutral development will be encouraged.

The Proposed Project will be held to the policies in the *Butte County General Plan 2030*.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following policies related to energy that are relevant to the Proposed Project:

- **Policy SUS-3.2, Municipal Energy Use**: Reduce energy and water use in municipal operations.
- **Policy SUS-3.4, Sustainable Fleet**: Support sustainable City vehicles and equipment.
- **Policy SUS-4.1, Green Public Facilities**: Incorporate green building techniques in the site design, construction, and renovation of public projects.
- **Policy SUS-5.2, Energy Efficient Design**: Support the inclusion of energy efficient design and renewable energy technologies in public and private projects.

The Proposed Project will be held to the policies in the *Chico 2030 General Plan*.

Butte County 2021 Climate Action Plan

The *Butte County 2021 Climate Action Plan* (Placeworks 2021) was adopted on December 14, 2021. Strategies in the climate action plan not only result in a reduction of GHG emissions countywide, but they increase overall sustainability and quality of life in the county by facilitating increased access to transportation and services, upgrades to infrastructure that build resiliency for the entire community, energy independence and affordability, and supporting broader economic development initiatives.

The Proposed Project will be held to the strategies in this climate action plan.

City of Chico Climate Action Plan Update

The *City of Chico Climate Action Plan Update* (Rincon Consultants 2021) was adopted on October 19, 2021. Measures in the climate action plan that would result in a reduction of GHG emissions are related to energy efficiency, renewable energy, sustainable transportation, development patterns, solid waste, water, urban trees and greenspace, and community engagement.

The Proposed Project will be held to the strategies in this climate action plan.

3.6.3 Method of Analysis

This section describes the methods used to analyze energy impacts within the study area.

3.6.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on energy if it would:

- **Impact ENG-1:** Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction, operation, or maintenance
- **Impact ENG-2:** Conflict with or obstruct a state or local plan for renewable energy or energy efficiency

3.6.3.2 Approach to Analysis

Impacts on energy were identified qualitatively and quantitatively based on the Proposed Project's potential to result in an increased demand for energy resources.

The analysis of environmental effects focuses on foreseeable changes to energy resources in the context of effects listed in Section 3.6.3.1, CEQA Significance Criteria. The analysis considers the Core Collection System, Export Pipeline System, and Extended Collection System, as appropriate, in the context of construction, operation, and maintenance.

Construction, Operation, and Maintenance

The following methods were used to evaluate the potential impacts of the Proposed Project on energy resources:

- Analysis of diesel and electricity consumption during construction of the Proposed Project.
- Analysis of the operational electricity requirements of the Proposed Project.

- Analysis of the Proposed Project's consistency with all plans, policies, and regulations listed in Section 3.6.2, Regulatory Framework.

For the purposes of this analysis, information was collected on energy resources using the following sources:

- California Energy Consumption Estimates by Source and by End-Use (US Energy Information Administration 2021a, 2021b)
- CEC's Statewide Electricity Generation (CEC 2021a)
- CEC's Electricity Consumption by County (CEC 2021b)
- California's Gasoline Consumption and Diesel Fuel Consumption (California Department of Tax and Fee Administration 2021a, 2021b)
- Butte County VMT Estimates (BCAG 2020a)
- Butte County Gasoline and Diesel Consumption Estimates (EMFAC 2021)

3.6.4 Impact Analysis

This section includes an analysis of the Proposed Project's potential to result in wasteful, inefficient, or unnecessary consumption of energy resources.

3.6.4.1 Impact ENG-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction, operation, or maintenance (Less than Significant Impact)

The Proposed Project will result in an increased demand for energy during its construction, operation, and maintenance. Primary sources of energy use will be electricity and transportation fuels.

Construction

During construction, energy consumption in the form of transportation fuel (gasoline and diesel) would result from operation of construction equipment, hauling trucks, and worker commute vehicles. On-road vehicles, including concrete haul trucks, soil truck haul trips, and other truck materials delivery trips are expected to be the primary source of fuel use, followed by fuel demand of construction equipment and then worker vehicles. Additional energy in the form of electricity would be used for lighting and on-site tools and equipment including, but not limited to, saw cutting machines and generators.

Statewide regulations, such as AB 1493 and Advanced Clean Cars Program, are aimed at improving on-road vehicle fuel efficiency, resulting in reduced fuel consumption. Although the In-Use Off-Road Diesel-Fueled Fleets Regulation is aimed at reducing emissions from off-road diesel vehicles, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling. Refer to Section 3.6.2 for a discussion of statewide legislation aimed at reducing transportation fuel demand. Conformance of vehicles and equipment to these statewide regulations is required and would avoid wasteful, inefficient, or unnecessary consumption of transportation fuel during construction.

Temporary power for lighting and electrical equipment would be readily available on-site because the Proposed Project area is already served by the Pacific Gas and Electric Company (PG&E). Many construction activities associated with the Proposed Project would occur concurrently, resulting in an

increase in electricity demand in the study area. This increase in electricity consumption would be temporary as it would be limited to the construction duration and small in comparison to the total energy demand in Butte County, which was 1,385 million kWh in 2020 (CEC 2021b). Therefore, construction of the Proposed Project would not result in the wasteful, inefficient, or unnecessary consumption of energy and impacts would be less than significant.

Operation and Maintenance

The SSA includes approximately 1,500 parcels (out of the total 11,500 total parcels within the Town limits). Each septic tank is pumped out every 3 to 5 years. It is assumed that septic tanks are pumped out on an average of 4 years, or 375 days per year. As discussed in Section 2.4, Existing Wastewater Treatment Facilities, septage from the Town is currently hauled to a septage treatment facility in Lincoln, which is located up to 75 miles (or 150 miles round trip) from the Proposed Project. As a result, septage hauling trucks currently drive a total of 56,250 miles per year (150 miles/day x 375 days/year). Based on a fuel consumption of 2.53 miles per gallon of gasoline for septage hauling trucks (US Department of Energy 2020), emptying the existing septic systems for 1,500 parcels would consume 22,233 gallons of gasoline per year. Once the Proposed Project is operational, the 1,500 parcels would no longer require septage hauling, which could result in a beneficial reduction of impacts on gasoline fuel consumption in the study area.

Once constructed and in operation, the Proposed Project would use energy for the collection and treatment of wastewater. Refer to Section 2.9, Energy Consumption during Operations, for a detailed discussion of energy demand during operation of the Proposed Project. As discussed in Section 2.9, the pump stations associated with the Core Collection System would consume electricity to move wastewater to higher elevations. Based on an average flow of 0.464 mgd and standard pump efficiency, pump stations to be installed in the Core Collection System would consume approximately 601,000 kWh/year of electrical energy. Refer to Appendix I Pump Station Energy Consumption Calculation for the detailed energy demand calculations. This increase in electricity consumption represents only 0.04 percent (601,000 kWh / 1,385 million kWh) of the total energy demand in Butte County.

As presented in Section 2.9, the Chico WPCP is currently operating at 6.3 mgd (Chico WPCP monitoring data, RWQCB 2021). The Proposed Project would add an additional 0.109 mgd of wastewater to the Chico WPCP influent at the time of initial connection (estimated for 2026) and 0.464 mgd at build-out if the Extended Collection System component were implemented (estimated for 2057). Chico WPCP operates a 1.1-megawatt, solar photovoltaic facility providing electric power to the WPCP, which reduces the plant's use of utility power by approximately 35 percent. Further, an on-site 335-kilowatt co-generator uses methane produced by the plant processes as a fuel source to produce electricity, which is in turn used at the WPCP (City of Chico 2021a). Therefore, energy efficiency and sustainability measures have already been built into the design of the Chico WPCP. While the Proposed Project would increase the amount of energy needed to treat wastewater at the existing Chico WPCP, it would be well within current capacity at the time of connection and would not result in an inefficient use of energy.

Therefore, operation and maintenance of the Proposed Project would not result in the wasteful, inefficient, or unnecessary consumption of energy and impacts would be less than significant.

3.6.4.2 Impact ENG-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency (No Impact)

Construction, Operation, and Maintenance

As discussed under Impact ENG-1, the Proposed Project would result in an increase in energy demand during its construction, operation, and maintenance. A multitude of state regulations and legislative acts are aimed at improving vehicle fuel efficiency, improving energy efficiency, and enhancing energy conservation. These include, but are not limited to, AB 1493, Advanced Clean Cars Program, In-Use Off-Road Diesel-Fueled Fleets Regulation, SB 100, and 2017 Scoping Plan. Refer to Section 3.6.2 for a discussion of statewide legislation aimed at reducing energy demand and/or improving energy efficiency. The Proposed Project will be subject to compliance with these adopted regulations. Therefore, the Proposed Project would not conflict with a state or local plan for renewable energy or energy efficiency, resulting in no impact.

3.6.5 Impacts Summary

Table 3.6-1 summarizes the energy impacts of the Proposed Project.

Table 3.6-1. Energy Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact ENG-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction, operation, or maintenance	LTS	N/A	LTS
Impact ENG-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency	NI	N/A	NI

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

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3.7 Geology, Soils, and Paleontological Resources

This section describes the environmental setting and regulatory framework for geology, soils, and paleontological resources. This section also identifies direct and indirect impacts of the Proposed Project during construction, operation, and maintenance. In particular, the analysis focuses on geologic hazards, soil erosion, and destruction of paleontological resources in the study area as a result of the Proposed Project's construction, operation, and maintenance. The study area for geology, soils, and paleontological resources refers to the areas within and directly adjacent to the Town of Paradise and areas of unincorporated Butte County and Chico where the proposed pipeline alignment runs.

3.7.1 Environmental Setting

3.7.1.1 Regional Geology

The Paradise area is located somewhat intermediately between the Cascade Geomorphic Province to the north and the Sierra Nevada Geomorphic Province to the south. The geologic characteristics of both systems are manifested in the terrestrial character of the Paradise region. The Cascade system is primarily composed of Cenozoic (or geologically newer) volcanic rocks, including Pliocene intrusions. The geologically older Sierra Nevada system is characterized by massive intrusions of Mesozoic granite into various layers of overlying rocks of varied origin. The majority of the Paradise area is underlain by Pliocene volcanic rocks with those of the Tuscan Formation dominating the northern, southern, and southeastern areas (Town of Paradise and Quad Consultants 2008).

The Chico area is located within the Great Valley Geomorphic Province, which extends 400 miles north to south and 60 miles east to west and is encompassed by the Coast Ranges (metamorphic), the Klamath Ranges (metamorphic), the Cascade Range (volcanic), and the Sierra Nevada Range (granitic and metamorphic). Geophysical evidence suggests that the Great Valley is underlain at depth with granitic rocks of the Sierra Nevada Province. The majority of rocks and deposits found within the Great Valley Geomorphic Province are sedimentary (City of Chico 2010) and includes those of the Modesto Formation, which is located generally along the eastern margin of the Great Valley and dates to the late Pleistocene, that is,126,000–11,700 years ago (Saucedo and Wagner 1992).

3.7.1.2 Regional Topography

The Paradise area is located on the western flanks of the Cascade-Sierra Nevada mountain system. The general elevation of the Paradise area ranges between 1,200 feet above sea level in the southern portion to 2,200 feet above sea level in the northeast. The Paradise area is gently sloping towards the southwest with average slopes of approximately 4 percent. Steeper slopes occur to the west, adjacent to Butte Creek Canyon; to the east, along the margin of the canyon of the West Branch of the Feather River; and in localized stream incisements such as Berry Canyon and Clear Creek to the south. Nearly 88 percent of Paradise sits on slopes of less than 30 percent (Town of Paradise and Quad Consultants 2008).

The topography of the Chico area varies from relatively gentle sloped terrain in the western portion to increasingly hilly terrain at the eastern edge of Chico and into the surrounding unincorporated portions of the Chico area. Average elevation throughout Chico is approximately 230 feet above mean sea level (City of Chico 2010).

3.7.1.3 Seismicity

California is a seismically active region; seismic activity is concentrated in tectonically active regions, such as the Pacific Coast, the Sierra Nevada Range, and the Cascade Range. The active tectonism in these regions is due to movements of the earth's tectonic plates. The strength of an earthquake is generally expressed in two ways: magnitude and intensity. Magnitude is commonly measured on the Richter scale, while intensity is measured on the Modified Mercalli Intensity scale. The Richter scale magnitude is a measure of the energy released at the focus of the earthquake. The Modified Mercalli scale measures the intensity on a scale of I to XII of ground shaking as determined from observations of an earthquake's effect on people, structures, and the earth's surface.

Butte County is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 10 to 20 percent within a 50-year period (Butte County 2010). This level of ground shaking correlates to a Modified Mercalli intensity of V to VII, that is, light to strong. As a result, the California Geological Survey has defined the entire Butte County as a seismic hazard zone (Butte County 2010).

3.7.1.4 Site Geology

Based on a review of DOC's Geologic Map of California, the study area is underlain by the following geologic units: Tertiary pyroclastic and volcanic mudflow deposits, and Quaternary alluvium and marine deposits (DOC 2015b). The Quaternary alluvium and marine deposits are described as alluvium, lake, playa, and terrace deposits that are unconsolidated and semi-consolidated (DOC 2015b). The volcanic rocks are of Tertiary age, while the marine and non-marine (continental) sedimentary rocks are of Pleistocene-Holocene age (DOC 2015b).

3.7.1.5 Geologic Hazards

Faults and Fault Rupture

The California Geological Survey has established the following fault classifications based on the age of last displacement:

- Faults that have shown movement within the last 200 years are historic faults.
- Faults that have shown movement in the past 11,000 years are Holocene faults.
- Faults that have shown movement within the last 700,000 years are Late Quaternary faults.
- Faults that have shown movement within the last 1.6 million years are Quaternary faults.
- Faults that lack recognized evidence of Quaternary displacement or show evidence of no displacement during the Quaternary time are Pre-Quaternary faults.

The classification of "active" is applied to historic and Holocene age faults; "potentially active" is applied to Quaternary and Late Quaternary age faults; and "inactive" is applied to Pre-Quaternary age faults. These classifications were developed by the California Geological Survey and were adopted by the Alquist-Priolo Earthquake Fault Zoning Act of 1972 to help delineate Special Studies Zones where detailed geologic investigations are required prior to development to reduce the threat to public health and safety and to minimize the loss of life and property posed by earthquake induced ground failure.

The only fault in Butte County considered active and subject to the Alquist-Priolo Earthquake Fault Zoning Act is the Cleveland Hills fault, which runs in a nearly north-south orientation directly south of Lake Oroville (Butte County 2010). This fault last ruptured in 1975 causing an earthquake that measured 5.7 on the Richter scale and had an estimated Mercalli Scale rating of up to VII, which indicates that it was felt by all and damage was minor to moderate (Butte County 2010).

The study area is not located within an Alquist-Priolo Earthquake Fault Zone (DOC 2019a). No known active faults traverse the study area.

Ground Shaking

Ground shaking is a general term referring to the motion of the earth's surface resulting from an earthquake. Ground shaking is normally the major cause of damage in seismic events. The extent of ground shaking is controlled by the magnitude and intensity of an earthquake, distance from the epicenter, and local geologic conditions.

The closest mapped active fault is the Cleveland Hills fault, which is located approximately 22 miles to the east of the study area. A review of the *Earthquake Shaking Potential for California* map (Branum et al. 2016) indicates that the potential for ground shaking during earthquakes within the study area is low.

Liquefaction

Liquefaction is a process in which uniform, clean, loose, fine sandy, and silty sediments below the water table temporarily lose strength during an earthquake and behave as a viscous liquid rather than a solid. Liquefaction can cause the soil beneath a structure to lose strength, which may result in the loss of foundation-bearing capacity. This loss of strength commonly causes the structure to settle or tip. Loss of bearing strength can also cause light buildings with basements, buried tanks, and foundation piles to rise buoyantly through the liquefied soil.

According to Figure 4-106 in the *Butte County Local Hazard Mitigation Plan Update* (Butte County 2019b), liquefaction potential in the study area is as follows: generally low with Paradise, generally low and generally moderate within unincorporated Butte County, and generally moderate within Chico.

Landslides

Landslides refer to a wide variety of processes that result in the perceptible downward and outward movement of soil, rock, and vegetation under gravitational influence. Landslides may be triggered by both natural and human-induced changes in the environment that result in slope instability. The susceptibility of an area to landslides depends on many variables including steepness of slope, type of slope material, structure and physical properties of materials, water content, amount of vegetation, and proximity to areas undergoing rapid erosion or changes caused by human activities such as mining, construction, and changes to surface drainage areas.

According to Figure 4.6-2 in the *Butte County General Plan 2030 EIR* (Butte County 2010), landslide potential in the study area is as follows: low to moderate and moderate within Paradise, moderate and low to none within unincorporated Butte County, and low to none within Chico.

Expansive Soils

Expansive soils shrink and swell with changes in moisture content as the clay minerals in these soils expand and contract. Expansive soils contain clay minerals that greatly increase in volume when they absorb water and shrink when they dry. When structures are located on expansive soils, foundations have the tendency to rise during the wet season and shrink during the dry season. This movement can create new stresses on various sections of the foundation and connected utilities and can lead to structural failure and damage to infrastructure. Cracked foundations, floors, and basement walls are typical types of damage done by swelling soils. Damage to the upper floors of the building can occur when motion in the structure is significant.

According to Figure 4.6-3 in the *Butte County General Plan 2030 EIR* (Butte County 2010), expansive potential in the study area is as follows: low within Paradise, low and moderate within unincorporated Butte County, and moderate within Chico.

Subsidence

Land subsidence is a gradual settling or sudden sinking of the Earth's surface owing to subsurface movement of earth materials often caused by groundwater or oil extraction. The potential effects of land subsidence include differential changes in elevation and gradients of stream channels, drain and water transport structures, failure of water well casings due to compressive stresses generated by compaction of aquifer system, and compressional strain in engineering structures and houses (Peterson 2021).

To date, no land subsidence has been recorded in Butte County (Peterson 2021). Land subsidence monitoring occurs on a continuous basis within Butte County, as required by Chapter 33A, Basin Management Objectives, of the Butte County Code of Ordinances (Peterson 2021).

3.7.1.6 Paleontological Resources

Paleontological resources are considered to be significant if they are scientifically judged to provide important data concerning key research interests in the study of taxonomy, evolution, biostratigraphy, paleoecology, or taphonomy. Although a paleontological records search with the University of California, Museum of Paleontology was not conducted for the Proposed Project, sufficient data are available to assess the potential for paleontological resources.

Best current professional practices to characterize paleontological sensitivity are guided by the Bureau of Land Management's Potential Fossil Yield Classification System, which has a multi-level scale based on demonstrated yield of fossils (Bureau of Land Management 2016). Vertebrate fossils are known to occur intermittently but with low predictability in the Modesto Formation, resulting in a Potential Fossil Yield Classification ranking of Class 3 or moderate. The mitigated negative declaration/environmental assessment prepared by Caltrans for the State Route 70 Corridor Improvements Project noted 137 previously recorded Modesto Formation fossils, including 22 vertebrate fossils, in Butte County (Caltrans 2018).

The reduced sensitivity within the Quaternary alluvial deposits on the floor of the Great Valley (Class 2 – low) and the Pliocene volcanic rocks along Skyway and underlying Paradise (Class 1 – very low) generally do not precipitate additional management measures. Late quaternary sediments are typically too young for fossilization and volcanic flows generally incinerate organic matter, precluding

preservation of paleontological resources. However, it is important to note that the descriptions for the class assignments serve as guidelines rather than as strict definitions and, further, the system applies to the entirety of the geologic formation. The classification is not intended to be applied to specific paleontological localities or small areas within units.

3.7.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on geology, soils, and paleontological resources. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.7.2.1 Federal

Earthquake Hazards Reduction Act

In October 1977, the United States Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States. The Earthquake Hazards Reduction Act established the National Earthquake Hazard Reduction Program. The purpose of this program is to reduce the risks to life and property in the United States from earthquakes through the establishment and maintenance of an effective national earthquake risk reduction program. Member agencies in the National Earthquake Hazard Reduction Program are the USGS, the National Science Foundation, the Federal Emergency Management Agency (FEMA), and the National Institute of Standards and Technology.

The Proposed Project will be held to the standards and programs set forth by this act.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act was passed on March 30, 2009. The Paleontological Resources Preservation Act is intended to preserve, manage, and protect paleontological resources on lands administered by the Bureau of Land Management, the Bureau of Reclamation, the National Parks Service, and the USFWS.

The Proposed Project will be held to the standards set forth by the Paleontological Resources Preservation Act.

3.7.2.2 State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (PRC Sections 2621 to 2630) was enacted in 1972 to reduce the hazard of surface faulting to structures designed for human occupancy. The act requires the State Geologist to establish regulatory zones known as Earthquake Fault Zones around the surface traces of active faults and issue appropriate maps, which are distributed to all affected cities, counties, and state agencies for their use in planning efforts. Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, the permitting agency must require a geologic investigation to demonstrate that buildings intended for human habitation would not be constructed on active faults.

The Proposed Project will be held to the standards set forth by this act.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (PRC Sections 2690 to 2699.6) directs the DOC to identify and map areas prone to earthquake liquefaction hazards, earthquake-induced landslides, and amplified ground shaking. The act requires the State Geologist to establish regulatory zones (Zones of Required Investigation) and to issue appropriate maps (Seismic Hazard Zone maps). These maps are distributed to all affected cities, counties, and state agencies for their use in planning and controlling construction and development.

The Proposed Project will be held to the standards set forth by this act.

General Permit for Construction Activities

The State of California adopted the Construction General Permit (CGP), Order No. 2012 0006 DWQ, amending Order No. 2009 0009 DWQ, effective July 17, 2012. The CGP regulates construction site stormwater management. Dischargers whose projects disturb 1 or more acres of soil, or whose projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the general permit for discharges of stormwater associated with construction activity.

Permit applicants are required to submit a Notice of Intent to the SWRCB and to prepare a SWPPP. The SWPPP identifies best management practices (BMPs) that must be implemented to reduce construction effects on receiving water quality based on pollutants. The BMPs identified are directed at implementing both sediment and erosion control measures and other measures to control chemical contaminants.

The Proposed Project will be held to the requirements of the CGP.

Paleontological Resources

CEQA includes in its definition of historical resources "…any object [or] site …that has yielded or may be likely to yield information important in prehistory…" (14 California Code of Regulations [CCR] Section 15064.5[a][3]), which is typically interpreted as including fossils and other paleontological resources. More specifically, destruction of a "…unique paleontological resource or site or unique geologic feature…" constitutes a significant impact under CEQA pursuant to CEQA Guidelines Appendix G. Treatment of paleontological resources under CEQA is generally similar to treatment of cultural resources, requiring evaluation of resources in the project; assessment of potential impacts on significant or unique resources; and development of mitigation measures for potentially significant impacts, which may include monitoring, data recovery excavation, and/or avoidance.

The Proposed Project will be held to the definitions in the CEQA Guidelines.

Public Resources Code Section 5097.5

PRC Section 5097.5 states that no person will knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands.

The Proposed Project will be held to the regulations in PRC Section 5097.5.

Society of Vertebrate Paleontology

The Society of Vertebrate Paleontology has guidance for assessing and mitigating paleontological resources that could potentially be impacted from land development. This guidance is included in the *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* (Society of Vertebrate Paleontology 2010). As part of the assessment process for paleontological resources, the Society of Vertebrate Paleontology's guidance groups rock units into a high, undetermined, low, or no potential category for containing significant paleontological resources. These categories then determine the level of mitigation required, or further assessment prior to construction, for adequate protection or salvage of paleontological resources within a project area.

The Proposed Project will be held to the Society of Vertebrate Paleontology's guidance.

3.7.2.3 Regional and Local

Town of Paradise General Plan

The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) includes the following policies related to geology, soils, and paleontological resources that are relevant to the Proposed Project:

- **Policy SP-15:** Development projects should be designed to minimize soil erosion and will be required to comply with all Town of Paradise-adopted soil erosion standards maintained by the Paradise Community Development Department.
- **Policy SP-16:** The Town should require all development proposals on sites that contain slopes exceeding 20 percent, and/or which border or include significant and sensitive stream courses or natural drainageways, to include programs for replanting and slope stabilization, erosion control plans, and to incorporate designs which minimize grading and cut-and-fill.
- **Policy SP-17:** Building on slopes in excess of 30 percent should not be permitted.

The Proposed Project will be held to the policies in the *Town of Paradise General Plan*.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following policies related to geology, soils, and paleontological resources that are relevant to the Proposed Project:

- **Policy HS-P6.1:** Appropriate detailed seismic investigations will be completed for all public and private development projects in accordance with the Alquist-Priolo Earthquake Fault Zoning Act.
- **Policy HS-P7.1:** Site-specific geotechnical investigations will be required to assess landslide potential for private development and public facilities projects in areas rated "Moderate to High" and "High" in Figure HS-4 or the most current available mapping
- **Policy HS-P8.1:** Site-specific geotechnical investigations will be required to assess erosion potential for private development projects and public facilities in areas rated "Very High" in Figure HS-7 or the most current available mapping.
- **Policy HS-P9.1:** Site-specific geotechnical investigations will be required to assess risks from expansive soils for private development projects and public facilities in areas rated "High" in Figure HS-8 or the most current available mapping.

- **Policy COS-P14.2:** As part of CEQA and NEPA projects, evaluations of surface and subsurface cultural resources in the County will be conducted. Such evaluations should involve consultation with the Northeast Information Center.
- **Policy COS-P15.2:** Any archaeological or paleontological resources on a development project site will be either preserved in their sites or adequately documented as a condition of removal. When a development project has sufficient flexibility, avoidance and preservation of the resource will be the primary mitigation measure.

The Proposed Project will be held to the policies in the *Butte County General Plan 2030*.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following policy related to geology, soils, and paleontological resources that is relevant to the Proposed Project:

- **Policy S-3.1, Potential Structural Damage:** Prevent damage to new structures caused by seismic, geologic, or soil conditions.

The Proposed Project will be held to the policies in the *Chico 2030 General Plan*.

Grading Ordinances

Chapter 15.02 – 2019 California Building Standards Code of the Town's municipal code requires that a grading permit be obtained from the Town Engineer before any grading, clearing, or grubbing activities (Town of Paradise 2022c). Application for a grading permit requires submittal of a grading plan. The grading plan, and accompanying site map, will show the following: existing and proposed contours, proposed limits of cuts and fills and other earthwork, existing off-site structures and other off-site improvements, public and private easements of record, typical sections of areas to be graded, all proposed uses for the site, and any other special features.

Chapter 13 – Grading and Mining of Butte County's municipal code states that the application for a grading permit will include the following: location map, plot plan, description of the work to be done and materials to be used, location of all drainage to and from the site, location of culverts and natural watercourses, details of proposed drainage structures, description of the methods to be used for erosion and sediment control, and locations of anticipated stockpile areas (Butte County 2021c).

Chapter 16.28 Grading Regulations – Permits of Chico's municipal code states that application for a grading permit requires submittal of a grading plan (City of Chico 2021b). The grading plan will include detailed plans, dimensions, and grading specifications. If required by the building official, a soils engineering report and/or engineering geology report must be prepared, and any recommendations included in these reports will be a part of the grading plan submittal.

The Proposed Project will be held to these grading permit requirements.

3.7.3 Method of Analysis

This section describes the methods used to analyze geology, soils, and paleontological resources impacts within the study area.

3.7.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on geology, soils, and paleontological resources if it would:

- **Impact GEO-1:** Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

    1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
    2. Strong seismic ground shaking;
    3. Seismic-related ground failure, including liquefaction; and/or
    4. Landslides.

- **Impact GEO-2:** Result in substantial soil erosion or the loss of topsoil
- **Impact GEO-3:** 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
- **Impact GEO-4:** Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property
- **Impact GEO-5:** 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
- **Impact GEO-6:** Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

3.7.3.2 Approach to Analysis

Impacts were identified qualitatively based on the Proposed Project's potential to result in geologic, seismic, and soil-related hazards.

The adverse effects on geology, soils, and paleontological resources are evaluated in the context of criteria listed in Section 3.7.3.1, CEQA Significance Criteria. The analysis considers the Core Collection System, Export Pipeline System, and Extended Collection System, as appropriate, in the context of construction, operation, and maintenance.

Construction, Operation, and Maintenance

Geology and Soils

The methods used for analyzing impacts on geology and soils included review of information from published maps, and Town, City and County publications and reports pertaining to geology and soils in the study area. The primary data sources for impact analysis include the following:

- *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008)
- *Chico 2030 General Plan Update EIR* (City of Chico 2010)
- *Butte County General Plan 2030 EIR* (Butte County 2010)

- DOC's geologic maps, seismic hazard zone maps, ground shaking potential map, and other publications (DOC 2015b, 2019; Branum et al. 2016)
- *Butte County Local Hazard Mitigation Plan Update* (Butte County 2019b)

Paleontological Resources

The methods used for analyzing impacts on paleontological resources included a review of information from published geologic maps, scientific literature, and reports pertaining to paleontological resources in the study area. The primary data sources for impact analysis include the following:

- Geologic Map of the Chico Quadrangle (Saucedo and Wagner 1992)
- Potential Fossil Yield Classification (PFYC) System for Paleontological Resources on Public Lands (Bureau of Land Management 2016)
- Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (Society of Vertebrate Paleontology 2010)

Paleontological resources are considered to be significant and/or unique if one or more of the following criteria apply:

- The fossil is a type of specimen or member of a rare species.
- The fossil is complete, or it includes an element different from, or more complete than, those already known for its species.
- The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct.
- The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein.
- The fossils provide data regarding the development of biological communities or interaction between paleo-botanical and paleo-zoological biotas.
- The fossils demonstrate unusual or spectacular circumstances in the history of life.
- The fossils are unusually, uniquely, or exceptionally well preserved.
- The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy. Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important.

3.7.4 Impact Analysis

This section describes the potential environmental impacts resulting from implementation of the Proposed Project. It includes an analysis of the Proposed Project's potential to result in public safety and health risks from seismic and geologic hazards; result in substantial soil erosion; impacts related to soils incapable of supporting septic tanks; and destroy a unique paleontological resource. The geology, soils, and paleontological resources impact analysis focuses on impacts from construction, operation,

and maintenance of the Core Collection System, the Export Pipeline System, and the Extended Collection System.

3.7.4.1 Impact GEO-1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

(a) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (No Impact)

Construction, Operation, and Maintenance

The Cleveland Hills fault, which is located approximately 22 miles to the east of the study area, is the only fault in Butte County considered active and subject to the Alquist-Priolo Earthquake Fault Zoning Act. The study area is not located within an Alquist-Priolo Earthquake Fault Zone (DOC 2019a). No known active faults traverse the study area. Therefore, the Proposed Project would not result in substantial adverse effects involving rupture of a known earthquake fault, resulting in no impact.

Mitigation. No mitigation required.

(b) Strong seismic ground shaking (Less than Significant Impact with Mitigation Incorporated)

Ground shaking is a general term referring to the motion of the earth's surface resulting from an earthquake. The closest mapped active fault is the Cleveland Hills fault, which is located approximately 22 miles to the east of the study area. A review of the *Earthquake Shaking Potential for California* map (Branum et al. 2016) indicates that the potential for ground shaking during earthquakes within the study area is low.

Construction

Ground disturbing activities during construction of the Core Collection System, Extended Collection System, and Export Pipeline System would include the use of vibration-generating equipment such as vibratory plate compactors, which may exacerbate ground shaking in the study area. Summaries of equipment, crews, and materials used in the modeling are included in Sections 2.5.1.3 and 2.5.2.4, for the Core Collection System and Export Pipeline System, respectively; it is assumed that equipment, crews, and materials for the Expanded Collection System would be similar in nature to the Core Collection System.

Therefore, construction of the Proposed Project may exacerbate ground shaking in the study area. This is considered a potentially significant impact.

Mitigation. To minimize potentially significant impacts involving ground shaking during construction of the Proposed Project to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards. Prior to construction, the Town will obtain the services of a qualified, licensed geotechnical engineer to prepare a design-level geotechnical report with specific recommendations to address geologic hazards, seismic safety, and soil conditions during construction.

The Town will review the geotechnical report with the geotechnical engineer to develop viable measures that will avoid or minimize risks associated with ground shaking, liquefaction, landslides, unstable soils, and expansive soils during construction. The Town will incorporate these measures into all contractor construction documentation as special conditions, which will be enforceable as contract provisions.

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts involving ground shaking during construction of the Proposed Project would be less than significant.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate ground shaking. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Proposed Project would not result in substantial adverse effects involving ground shaking, resulting in a less than significant impact.

Mitigation. No mitigation required.

(c) Seismic-related ground failure, including liquefaction (Less than Significant Impact with Mitigation Incorporated)

Liquefaction is a process in which uniform, clean, loose, fine sandy, and silty sediments below the water table temporarily lose strength during an earthquake and behave as a viscous liquid rather than a solid. According to Figure 4-106 in the *Butte County Local Hazard Mitigation Plan Update* (Butte County 2019b), liquefaction potential in the study area is as follows: generally low with Paradise, generally low and generally moderate within unincorporated Butte County, and generally moderate within Chico.

Construction

Ground disturbing activities during construction of the Core Collection System and Export Pipeline System would include the use of vibration-generating equipment such as vibratory plate compactors, which may exacerbate liquefaction in the study area. Similar to the Core Collection System, the use of vibration-generating equipment for ground disturbing activities during construction of the Extended Collection System may exacerbate liquefaction in the study area.

Therefore, construction of the Proposed Project may exacerbate liquefaction in the study area. This is considered a potentially significant impact.

Mitigation. To minimize potentially significant impacts involving liquefaction during construction of the Proposed Project to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Impact GEO-1(b) for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts involving liquefaction during construction of the Proposed Project would be less than significant.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities would occur in previously disturbed areas (mostly within paved roads), resulting in no potential to exacerbate liquefaction. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Proposed Project would not result in substantial adverse effects involving liquefaction, resulting in a less than significant impact.

Mitigation. No mitigation required.

(d) Landslides (Less than Significant Impact with Mitigation Incorporated)

Landslides refer to a wide variety of processes that result in the perceptible downward and outward movement of soil, rock, and vegetation under gravitational influence. According to Figure 4.6-2 in the *Butte County General Plan 2030 EIR* (Butte County 2010), landslide potential in the study area is as follows: low to moderate and moderate within Paradise, moderate and low to none within unincorporated Butte County, and low to none within Chico.

Construction

Ground disturbing activities during construction of the Core Collection System and Export Pipeline System would include the use of vibration-generating equipment such as vibratory plate compactors, which may exacerbate landslides in the study area. Similar to the Core Collection System, the use of vibration-generating equipment for ground disturbing activities during construction of the Extended Collection System may exacerbate landslides in the study area.

Therefore, construction of the Proposed Project may exacerbate landslides in the study area. This is considered a potentially significant impact.

Mitigation. To minimize potentially significant impacts involving landslides during construction of the Proposed Project to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Impact GEO-1(b) for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts involving landslides during construction of the Proposed Project would be less than significant.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate landslides. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Proposed Project would not result in substantial adverse effects involving landslides, resulting in a less than significant impact.

Mitigation. No mitigation required.

3.7.4.2 Impact GEO-2: Result in substantial soil erosion or the loss of topsoil (Less than Significant Impact)

Construction

Construction activities often increase the runoff potential of disturbed areas. Construction activities, including ground disturbance, excavation, and paving, associated with the construction of the Core Collection System, the Export Pipeline System, and the Extended Collection System would remove ground cover and expose and disturb soil. Exposed and disturbed soils are vulnerable to wind and water erosion.

Construction activities will conform to the federal, state, and local regulations related to soils described in Section 3.7.2. As part of the Proposed Project, the Town will obtain coverage under the CGP from the SWRCB. The Town will be required to prepare a SWPPP to comply with the SWRCB's CGP. The SWPPP will identify BMPs to be implemented on-site to minimize soil erosion during construction, including sediment and erosion control measures and other measures to control chemical contaminants. The SWPPP will also contain a visual monitoring program for "nonvisible" pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a waterbody listed on the CWA 303(d) list for sediment.

In addition, the Proposed Project will be required to comply with the grading permit requirements of Paradise, Butte County, and Chico. The grading permit process would ensure that erosion control measures are incorporated into the Project plans and implemented during construction.

Based on these factors, impacts from soil erosion or the loss of topsoil during construction of the Proposed Project would be less than significant.

Mitigation. No mitigation required.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities that could expose or disturb soil. Therefore, operation and maintenance of the Proposed Project would not result in substantial soil erosion or the loss of topsoil, resulting in no impact.

Mitigation. No mitigation required.

3.7.4.3 Impact GEO-3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse (Less than Significant Impact with Mitigation Incorporated)

Land subsidence results in a slow-to-rapid downward movement of the ground surface as a result of the vertical displacement of the ground surface, usually resulting from groundwater withdrawal. To date, no land subsidence has been recorded in Butte County (Peterson 2021). As previously noted, landslide potential in the study area is as follows: low to moderate and moderate within Paradise, moderate and low to none within unincorporated Butte County, and low to none within Chico (Butte County 2010). Also previously discussed, liquefaction potential in the study area is as follows: generally low with Paradise, generally low and generally moderate within unincorporated Butte County, and generally moderate within Chico (Butte County 2019b).

Construction

Ground-disturbing activities during construction of the Core Collection System and Export Pipeline System would include the use of vibration-generating equipment such as vibratory plate compactors, which may exacerbate on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse in the study area. Similar to the Core Collection System, the use of vibration-generating equipment for ground disturbing activities during construction of the Extended Collection System may exacerbate on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse in the study area.

Therefore, construction of the Proposed Project may exacerbate on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse in the study area. This is considered a potentially significant impact.

Mitigation. To minimize potentially significant impacts associated with on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during construction of the Proposed Project to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Impact GEO-1(b) for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts associated with on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during construction of the Proposed Project would be less than significant.

Operation and Maintenance

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, impacts related to on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during operation and maintenance of the Proposed Project would be less than significant.

Mitigation. No mitigation required.

3.7.4.4 Impact GEO-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property (Less than Significant Impact with Mitigation Incorporated)

Expansive soils shrink and swell with changes in moisture content as the clay minerals in these soils expand and contract. According to Figure 4.6-3 in the *Butte County General Plan 2030 EIR* (Butte County 2010), expansive potential in the study area is as follows: low within Paradise, low and moderate within unincorporated Butte County, and moderate within Chico.

Construction

Ground disturbing activities during construction of the Core Collection System and Export Pipeline System would include the use of vibration-generating equipment such as vibratory plate compactors, which may exacerbate risks associated with expansive soils in the study area. Similar to the Core Collection System, the use of vibration-generating equipment for ground disturbing activities during construction of the Extended Collection System may exacerbate risks associated with expansive soils in the study area.

Therefore, construction of the Proposed Project may exacerbate risks associated with expansive soils in the study area. This is considered a potentially significant impact.

Mitigation. To minimize potentially significant impacts associated with expansive soils during construction of the Proposed Project to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Impact GEO-1(b) for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts associated with expansive soils during construction of the Proposed Project would be less than significant.

Operation and Maintenance

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate risks associated with expansive soils. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, impacts related to expansive soils during operation and maintenance of the Proposed Project would be less than significant.

Mitigation. No mitigation required.

3.7.4.5 Impact GEO-5: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater (No Impact)

Construction, Operation, and Maintenance

The Proposed Project includes a Core Collection System that would replace individualized septic systems within the Paradise sewer service area and provide a connection to the Chico WPCP via an Export Pipeline System. The Proposed Project also includes an Extended Collection System, which would allow for additional parcels within the Town limits to apply to connect to the sewer service area on a first-come, first-served basis up to the limits of the sewer system capacity. No portion of the Proposed Project incorporates septic tanks or alternative wastewater disposal systems.

If the Project is approved and implemented, up to 1,500 parcels within the sewer service area would be converted to the sewer system and would no longer use septic tanks. The Proposed Project would serve as a new wastewater management solution to address the economic and environmental concerns of the current failed or failing septic systems. Under existing conditions, the privately owned septic tanks and leach fields with subsurface disposal systems have resulted in the continual exceedance of soil capacities to absorb and treat wastewater. Overall, there would be beneficial impacts on soils by replacing septic systems with a wastewater treatment solution. Therefore, the Proposed Project would not locate septic tanks or alternative wastewater disposal systems on soils incapable of adequate support, resulting in no impact.

Mitigation. No mitigation required.

3.7.4.6 Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (Less than Significant Impact with Mitigation Incorporated)

As noted above in Section 3.7.1.6, paleontological sensitivity with the Modesto Formation in the study area varies from very low along Skyway and Paradise to moderate in and around the Chico area.

Construction

Excavations associated with the Core and Extended Collection Systems are unlikely to reach a sufficient depth to encroach on the formation. However, due to the depth of ground disturbance associated with microtunneling and/or HDD during construction of the Export Pipeline System, the Proposed Project has the potential to intersect with the geological unit. Although the likelihood of

encountering a paleontological resource during construction is low for most of the study area, ground disturbance during construction activities could disturb unknown paleontological resources and impacts are considered potentially significant.

Mitigation. To minimize potentially significant impacts on paleontological resources during construction of the Proposed Project to a less than significant level, mitigation measure **MM-GEO-2** will be implemented.

MM-GEO-2: Inadvertent Discovery Protocol. If paleontological resources are discovered during earth-moving activities, the construction crew will immediately cease work within a 50-foot radius of the find and notify the Town's Project Manager. Construction work will be halted until the collection of fossil specimens has been completed. The collection and treatment actions will occur after recovery of specimens and once scientific value can be confirmed and documented. If fossils are found, treatment actions will include sampling for microfossils, conducting paleomagnetic analysis, identifying and preparing fossils, arranging for a repository, and preparing a final report.

Significance after Mitigation. With implementation of **MM-GEO-2**, impacts on paleontological resources during construction of the Proposed Project would be less than significant.

Operation and Maintenance

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to impact paleontological resources. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, impacts on paleontological resources during operation and maintenance of the Proposed Project would be less than significant.

Mitigation. No mitigation required.

3.7.5 Impacts Summary

Table 3.7-1 summarizes the geology, soils, and paleontological resources impacts of the Proposed Project.

Table 3.7-1. Geology, Soils, and Paleontological Resources Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact GEO-1(a): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault	NI	N/A	NI
Impact GEO-1(b): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Strong seismic	SI	MM-GEO-1	S/M

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
ground shaking			
Impact GEO-1(c): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Seismic-related ground failure, including liquefaction	SI	MM-GEO-1	S/M
Impact GEO-1(d): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Landslides	SI	MM-GEO-1	S/M
Impact GEO-2: Result in substantial soil erosion or the loss of topsoil	LTS	N/A	LTS
Impact GEO-3: 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	SI	MM-GEO-1	S/M
Impact GEO-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property	SI	MM-GEO-1	S/M
Impact GEO-5: 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	NI	N/A	NI
Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	SI	MM-GEO-2	S/M

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

3.7.6 References

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3.8 Greenhouse Gas Emissions

This section describes the environmental setting and regulatory framework for GHG emissions, and it identifies direct and indirect impacts of the Proposed Project during construction, operation, and maintenance. In particular, the analysis focuses on emissions of GHGs in the study area during construction, operation, and maintenance of the Proposed Project. GHG emissions effects are not localized to areas where they are produced. Climate change is a global phenomenon resulting from the combined effects of GHG emissions produced worldwide. While the true study area affected by GHG emissions is global, for purposes of this PEIR, the study area is considered as the State of California.

3.8.1 Environmental Setting

3.8.1.1 Climate Change and GHG Emissions

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to GHG emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change by the United Nations and the World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are concerned primarily with the emissions of GHGs generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (1,1,1,2 tetrafluoroethane), and HFC-152a (difluoroethane).

In the United States, fossil fuel combustion accounted for 92.4 percent of CO_2 emissions in 2019 (USEPA 2021b). Transportation was the largest emitter of CO_2 in 2019 followed by electric power generation (USEPA 2021b). In California, transportation was the largest source of GHG emissions in 2019, followed by electric power (ARB 2021d).

3.8.1.2 GHG Emissions Inventories

An emissions inventory that identifies and quantifies the primary human generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes recent information on global, national, California, and local GHG emission inventories.

Global Emissions

Worldwide emissions of GHGs in 2018 were 33.51 billion metric tons (MT) of carbon dioxide equivalent (CO_2e) per year (International Energy Agency 2021). Global estimates are based on country inventories developed as part of programs of the United Nations Framework Convention on Climate Change.

Federal Emissions

In 2019, total US emissions of GHGs were 6,558.3 million MT of CO_2e (USEPA 2021b). Total US emissions increased by 1.8 percent from 1990 to 2019, down from a high of 15.6 percent above 1990 levels in 2007. Emissions decreased from 2018 to 2019 by 1.7 percent (113.1 million MT CO_2e). Net

emissions (including sinks) were 5,769.1 million MT of CO_2e. Overall, net emissions decreased 1.7 percent from 2018 to 2019 and decreased 13 percent from 2005 levels. Between 2018 and 2019, the decrease in total GHG emissions was largely driven by the decrease in CO_2 emissions from fossil fuel combustion. The decrease in CO_2 emissions from fossil fuel combustion was a result of a 1 percent decrease in total energy use and reflects a continued shift from coal to less carbon intensive natural gas and renewables in the electric power sector.

California Emissions

The *California Greenhouse Gas Emissions for 2000 to 2019: Trends of Emissions and Other Indicators* (ARB 2021d) is an important tool in tracking progress of California's climate programs toward achieving the statewide GHG goals. In 2019, emissions from GHG emitting activities statewide were 418.2 million MT of CO_2e, 7.2 million MT of CO_2e lower than 2018 levels and almost 13 million MT of CO_2e below the 2020 GHG target of 431 million MT of CO_2e (ARB 2021d). Since the peak level in 2004, California's GHG emissions have generally followed a decreasing trend. In 2016, statewide GHG emissions dropped below the 2020 GHG target and have remained below the target since then.

Per capita GHG emissions in California have dropped from a 2001 peak of 14.0 tons per person to 10.5 tons per person in 2019, a 25 percent decrease (ARB 2021d). Overall trends in the inventory also continue to demonstrate that the carbon intensity of California's economy; i.e., the amount of carbon pollution per million dollars of gross domestic product is declining. From 2000 to 2019, the carbon intensity of California's economy decreased by 45 percent while the gross domestic product increased by 63 percent. In 2019, gross domestic product grew 2.6 percent while the emissions per gross domestic product declined by 4.1 percent compared to 2018 (ARB 2021d).

3.8.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on GHG emissions. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.8.2.1 Federal

United States Environmental Protection Agency

On April 2, 2007, in *Massachusetts v. Environmental Protection Agency*, 549 U.S. 497, the U.S. Supreme Court found that GHGs are air pollutants covered by the Federal Clean Air Act. The court held that USEPA must determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision.

The Proposed Project will be held to the decision in *Massachusetts v. Environmental Protection Agency*.

3.8.2.2 State

Executive Order S-3-05

In June 2005, Governor Schwarzenegger issued EO S-3-05, which established the following GHG emissions reduction targets: 1) reduce GHG emissions to 2000 levels by 2010, 2) reduce GHG

emissions to 1990 levels by 2020, and 3) reduce GHG emissions to 80 percent below 1990 levels by 2050.

The Proposed Project will be held to the principles of EO S-3-05.

Assembly Bill 32

In September 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006, also known as AB 32. AB 32 required that statewide GHG emissions be reduced to 1990 levels by 2020. California met its 2020 reduction goal in 2018.

The standards set forth by this act are obsolete and would not apply to the Proposed Project.

Executive Order B-30-15

On April 20, 2015, Governor Brown signed EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. California's emission reduction target of 40 percent below 1990 levels by 2030 would make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050.

The Proposed Project will be held to the principles of EO B-30-15.

Senate Bill 32

SB 32 was signed into law on September 8, 2016, and expands upon AB 32 to reduce GHG emissions. SB 32 sets into law the mandated GHG emissions target of 40 percent below 1990 levels by 2030 written into EO B-30-15.

The Proposed Project will be held to the standards set forth by SB 32.

Climate Change Scoping Plan

The 2017 Scoping Plan (ARB 2017) reflects the 2030 target as codified by SB 32 (Section 0 Energy). The 2017 Scoping Plan outlines several high-level objectives and goals for reducing GHG emissions in the water sector, including reducing the carbon footprint of water systems and water uses for both surface and groundwater supplies through integrated strategies that reduce GHG emissions while meeting the needs of a growing population, improving public safety, fostering environmental stewardship, aiding in adaptation to climate change, and supporting a stable economy. According to the 2017 Scoping Plan, the 2030 target of 260 million MT of CO_2e requires the reduction of 129 million MT of CO_2e, or approximately 33.2 percent, from the state's projected 2030 business-as-usual scenario emissions level of 389 million MT of CO_2e (ARB 2017).

The Proposed Project will be held to the targets in the 2017 Scoping Plan.

Assembly Bill 1493

AB 1493 of 2002 (Pavley Bill) required the ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In September 2004, pursuant to this directive, the ARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created the Pavley standards. In September 2009, the ARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created the Pavley II standards.

The Proposed Project will be held to the Pavley II standards.

Advanced Clean Cars Program

In January 2012, the ARB approved a new emissions control program called the Advanced Clean Cars Program for model years 2017 through 2025. The program includes the Zero Emission Vehicle Program, which is designed to achieve California's long-term emission reduction goals by requiring manufacturers to offer for sale specific numbers of zero-emission vehicles, which include battery electric, fuel cell, and plug-in hybrid electric vehicles.

The Proposed Project will be held to the goals of the Advanced Clean Cars Program.

3.8.2.3 Regional and Local

Butte County Air Quality Management District

BCAQMD is the air quality regulating authority in Butte County. The *CEQA Air Quality Handbook* (BCAQMD 2014) includes analysis requirements for construction and operational emissions. BCAQMD has not adopted thresholds of significance for GHG emissions. Instead, BCAQMD recommends thresholds for construction and operational GHG emissions: 1) compliance with a qualified GHG reduction strategy, or 2) compliance with the lead agency's threshold, or 3) consistency with the goals of AB 32.

Although considered during the analysis, BCAQMD has not adopted thresholds of significance for GHG emissions that apply to the Proposed Project.

Town of Paradise General Plan

The Town of Paradise General Plan (Town of Paradise and Quad Consultants 2008) does not contain any objectives or policies that specifically address GHG emissions. The Town has not yet adopted a climate action plan or any other plan to quantify existing GHG inventories or provide goals and measures to reduce GHG emissions in the Town.

Although considered during the analysis, the Town has not adopted any plans or policies for GHG emissions that apply to the Proposed Project. Therefore, the Town uses and complies with the provisions of federal and State regulations.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following policies related to GHG emissions that are relevant to the Proposed Project:

- **Policy COS-P1.1**: Greenhouse gas emission impacts from proposed development projects will be evaluated as required by the CEQA.
- **Policy COS-P1.2**: New development projects will mitigate greenhouse gas emissions on-site or as close to the site as possible.

The Proposed Project will be held to the policies in the Butte County General Plan 2030.

Butte County 2021 Climate Action Plan

The *Butte County 2021 Climate Action Plan* (Placeworks 2021) was adopted on December 14, 2021. Butte County is committed to reducing GHG emissions to 6.0 MT CO_2e per person by 2030 and 2.0 MT

CO_2e per person by 2050, consistent with the 2017 Scoping Plan guidance. Butte County is also setting forth an interim target of 4.0 MT CO_2e per person by 2040. The climate action plan identifies 15 strategies that, if implemented, will allow the County to achieve its GHG emissions reductions targets.

The Proposed Project will be held to the strategies in this climate action plan.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following policies related to GHG emissions that are relevant to the Proposed Project:

- **Policy SUS-6.1, Greenhouse Gas Reduction Efforts**: Support local, regional, and statewide efforts to reduce emissions of greenhouse gases linked to climate change.
- **Policy SUS-6.2, Greenhouse Gas Inventory and Climate Action Plan**: Maintain a Greenhouse Gas Emissions Inventory and implement the Climate Action Plan to make progress toward meeting the City's greenhouse gas emissions reduction goal.
- **Policy SUS-6.3, Greenhouse Gas Emissions and CEQA**: Analyze and mitigate potentially significant increases in greenhouse gas emissions during project review, pursuant to the California Environmental Quality Act.
- **Policy SUS-6.4, Community Trees**: Continue to support the planting and maintenance of trees in the community to increase carbon sequestration.

The Proposed Project will be held to the policies in the Chico 2030 General Plan.

City of Chico Climate Action Plan Update

The *City of Chico Climate Action Plan Update* (Rincon Consultants 2021) was adopted on October 19, 2021. The City of Chico is committed to a GHG emissions reduction target of 2.71 MT of CO_2e per person (or 292,437 MT of CO_2e in total emissions) by 2030. This corresponds to an 80 percent reduction in per capita emissions (or a 46 percent reduction in total emissions) below 1990 levels by 2030, exceeding the SB 32 target of 40 percent reduction in total emissions by 2030. To achieve the GHG emissions reduction target, the climate action plan includes 13 measures related to energy efficiency, renewable energy, sustainable transportation, development patterns, solid waste, water, urban trees and greenspace, and community engagement.

The Proposed Project will be held to the strategies in this climate action plan.

3.8.3 Method of Analysis

This section describes the methods used to analyze impacts on GHG emissions within the study area.

3.8.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on GHG emissions if it would:

- **Impact GHG-1:** Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment

- **Impact GHG-2:** Conflict with an applicable plan, policy, or regulation adopted for the purpose of reduction the emissions of GHG

3.8.3.2 Approach to Analysis

Impacts on GHG emissions were identified qualitatively and quantitively based on the Proposed Project's potential to generate substantial GHG emissions.

The analysis of environmental effects focuses on foreseeable changes to GHG emissions in the context of effects listed in Section 3.8.3.1, CEQA Significance Criteria. The analysis considers the Core Collection System, Export Pipeline System, and Extended Collection System, as appropriate, in the context of construction, operation, and maintenance.

Greenhouse Gas Emissions Thresholds

BCAQMD has not adopted thresholds for GHG emissions. BCAQMD's recommends the following thresholds for construction and operational GHG emissions: compliance with a qualified GHG reduction strategy, or compliance with the Lead Agency's threshold, or consistency with the goals of AB 32. The Town (or Lead Agency) has not adopted a climate action plan, nor does it include thresholds of significance for evaluating GHG emissions using either a bright-line or an efficiency-based approach. Additionally, SB 32, which expands on AB 32, is the current legislation to reduce GHG emissions within California.

In the absence of locally adopted numeric thresholds for GHG emissions, it is appropriate to evaluate the Proposed Project's impacts against thresholds established by another jurisdiction. The adjoining air districts are the Tehama County Air Pollution Control District (comprising of Tehama County), Northern Sierra Air Quality Management District (comprising of Nevada, Sierra, and Plumas counties), Glenn County Air Pollution Control District (comprising of Glenn County), Colusa County Air Pollution Control District (comprising of Colusa County), and Feather River Air Quality Management District (comprising of Sutter and Yuba counties). Except for Tehama County Air Pollution Control District, none of these air districts have established or adopted a threshold for determining the significance of GHG impacts. The Tehama County Air Pollution Control District has established a threshold of 900 MT CO_2e per year for operational GHG emissions but has not established a threshold for construction emissions (Tehama County Air Pollution Control District 2015).

The next closest air district with adopted construction GHG thresholds of significance based on current legislation (SB 32) is the Sacramento Metropolitan Air Quality Management District (SMAQMD). For typical land use projects, SMAQMD recommends use of a 1,100 MT CO_2e per year threshold for construction and operational emissions (SMAQMD 2021). SMAQMD's threshold is consistent with GHG emissions reduction goals set forth by SB 32, which mandates a GHG emissions target of 40 percent below 1990 levels by 2030. Refer to Section 3.8.2, Regulatory Framework, for more information on SB 32. Therefore, the Town in its discretion is using the SMAQMD threshold of 1,100 MT CO_2e per year to determine significance of GHG emissions.

Construction

Impacts on GHG emissions during construction of the Proposed Project were analyzed quantitatively. Construction of the Core Collection System, Export Pipeline System, and Extended Collection System

would generate GHG emissions from the operation of construction equipment, hauling of materials, and commute of construction crews. GHG emissions associated with construction of the Core Collection System and Export Pipeline System were estimated using CalEEMod 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operation from a variety of land use projects. Construction emissions were estimated in CalEEMod using a combination of information presented in Chapter 2 and model defaults. The area of disturbance for the Core Collection System presented in Section 2.5.1.1 and Export Pipeline System presented in Section 2.5.2.1 were used as inputs in CalEEMod. The construction schedules for the Core Collection System and Export Pipeline System presented in Section 2.6 were used in CalEEMod. Types and quantities of equipment, construction crew size, excavation and fill quantities, and number of truck trips presented in Sections 2.5.1.3 and 2.5.2.3 were used as inputs to CalEEMod. GHG emissions associated with construction of the Extended Collection System were estimated using comparable measures and assumptions to the Core Collection System. GHG impacts were determined by comparing the GHG emissions generated during construction of the Core Collection System, Export Pipeline System, and Extended Collection System against the appropriate thresholds. As noted above, the assessment uses the SMAQMD threshold of 1,100 MT CO_2e per year to determine significance of GHG emissions during construction.

Operation and Maintenance

Impacts on GHG emissions during operation and maintenance were assessed qualitatively based on the information in Section 2.8, Operations and Maintenance.

3.8.4 Impact Analysis

This section describes the potential environmental impacts on GHG emissions as a result of implementation of the Proposed Project. It includes an analysis of the Proposed Project's potential to generate GHG emissions and conflict with a plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

3.8.4.1 Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment (Less than Significant Impact)

Construction

Construction activities associated with the Proposed Project would generate short-term GHG emissions from the operation of construction equipment, hauling of materials, and commute of construction crews.

GHG emissions generated during construction of the Core Collection System and Export Pipeline System were estimated using CalEEMod. The unmitigated construction GHG emissions are summarized in Table 3.8-1. The detailed CalEEMod output is included in Appendix D Emissions Modeling. The total GHG emissions generated during construction of the Core Collection System and the Export Pipeline System were compared with appropriate GHG thresholds to determine significance.

Table 3.8-1. Unmitigated Construction GHG Emissions

Year	GHG Emissions (MT CO_2e)
Core Collection System	
2023	706.62

Year	GHG Emissions (MT CO_2e)
2024	3,032.48
2025	522.31
Total	4,261.41
Export Pipeline System	
2023	655.68
2024	793.39
Total	1,449.07
Overall Total Emissions	**5,710.48**

Source: CalEEMod (see Appendix D)

Notes: MT = metric tons, CO_2e = carbon dioxide equivalent, GHG = greenhouse gas

As shown in Table 3.8-1, the Core Collection System and the Export Pipeline System would generate a total of 5,710 MT CO_2e of unmitigated GHG emissions over the construction duration. This total is amortized over the expected 30-year life of the Proposed Project to yield a yearly emissions volume of approximately 190 MT CO_2e.

As described in Section 3.8.3, the threshold of significance adopted by SMAQMD (1,100 MT CO_2e per year) will be used to determine significance of GHG emissions.

The amortized unmitigated GHG emissions during construction of the Core Collection System and Export Pipeline System would be approximately 190 MT CO_2e per year, which is below SMAQMD's threshold of significance of 1,100 MT CO_2e per year.

The construction methodology for the Extended Collection System would be similar to the Core Collection System. Crews and equipment used for the Extended Collection System would be similar to the Core Collection System, except that the duration would be shorter. Therefore, the GHG emissions generated during construction of the Extended Collection System would be similar to those generated during construction of the Core Collection System. The amortized unmitigated GHG emissions associated with construction of the Core Collection System (4,261 MT CO_2e / 30 years = 142 MT CO_2e per year) would not exceed SMAQMD thresholds (1,100 MT CO_2e per year). Similar to the Core Collection System, amortized unmitigated GHG emissions associated with construction of the Extended Collection System would not exceed SMAQMD thresholds.

Based on the discussion above, the Proposed Project would not exceed the SMAQMD thresholds for GHG emissions during construction. Therefore, construction of the Proposed Project would generate GHG emissions that have a less-than-significant impact on the environment.

Mitigation. No mitigation required.

Operation and Maintenance

Operation and maintenance activities, as described in Section 2.8, would generate GHG emissions from the use of vehicles. However, GHG emissions from operations and maintenance activities would be minimal and immeasurable due to the infrequency of these activities. Therefore, operation and maintenance of the Proposed Project would generate GHG emissions that have a less-than-significant impact on the environment.

Mitigation. No mitigation required.

3.8.4.2 Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions (No Impact)

As discussed under Section 3.8.3, SB 32 is the current legislation to reduce GHG emissions within California.

Construction

The Proposed Project would generate GHG emissions during construction. As indicated under Impact GHG-1, the GHG emissions generated during construction would not exceed SMAQMD's threshold of significance of 1,100 MT CO_2e per year. SMAQMD's threshold is consistent with GHG emissions reduction goals set forth by SB 32, which mandates a GHG emissions target of 40 percent below 1990 levels by 2030. Since the construction GHG emissions generated by the Proposed Project are below SMAQMD's threshold of significance, it would not conflict with SB 32 GHG emissions reduction goals. Therefore, construction of the Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, resulting in no impact.

Mitigation. No mitigation required.

Operation and Maintenance

Operation and maintenance activities, as described in Section 2.8, would generate GHG emissions from the use of vehicles. However, GHG emissions from operations and maintenance activities would be minimal and immeasurable due to the infrequency of these activities. Therefore, operation and maintenance of the Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, resulting in no impact.

Mitigation. No mitigation required.

3.8.5 Impacts Summary

Table 3.8-2 summarizes the GHG emissions impacts of the Proposed Project.

Table 3.8-2. GHG Emissions Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment	LTS	N/A	LTS
Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions	NI	N/A	NI

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

3.8.6 References

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3.9 Hazards and Hazardous Materials

This section describes the environmental setting and regulatory framework for hazards and hazardous materials, and it identifies direct and indirect impacts of the Proposed Project during construction, operation, and maintenance. In particular, the analysis focuses on hazards and hazardous materials that may be present in the study area and the use of hazardous materials during implementation of the Proposed Project's construction, operation, and maintenance. The study area for hazards and hazardous materials is defined as the area of disturbance for the Proposed Project and a 500-foot buffer to account for potential adjoining properties with soil and groundwater contamination. However, the potential for hazards and hazardous material effects are not limited to the immediate study area but can extend to locations where removed materials are transported after use and to sensitive receptors that may be present in the vicinity of the study area. Therefore, transport of materials and sensitive receptors are also considered when addressing the potential for effects.

3.9.1 Environmental Setting

3.9.1.1 Site Description and History

The study area consists of the Town and primarily rural land between the Town and City. The Core Collection System is in the Town in the vicinity of residences and businesses, while the Export Pipeline System passes through mostly vacant agricultural land along Skyway Road near the Feather River in unincorporated Butte County (see Figure 2-1, Project Location in Chapter 2, Project Description). The site contains overhead utility lines and roadways as well as agricultural, residential, commercial, and industrial areas. In 2018, much of the Town of Paradise was destroyed by the Camp Fire. Historical land uses were similar to present day land uses in the area. As discussed in Section 0 Wildfire, the Core Collection System and Extended Collection System are in a Local Responsibility Area (LRA) Very High Fire Hazard Severity Zone (FHSZ) (California Department of Forestry and Fire Protection [CALFIRE] 2008). Farther south of Paradise, the Export Pipeline traverses Very High, Moderate and High FHSZ in the State Responsibility Area (SRA). The Chico WPCP is in a LRA Non-Very High FHSZ. Please refer to Section 0 for more information on existing conditions and detailed evaluation of potential effects for wildfire from implementation of Proposed Project. The closest sensitive receptors to the Proposed Project are the residential dwelling units along Entler Avenue in Chico, which are located within 50 feet of the proposed pipeline alignment (Google Earth 2022). Fourteen schools exist within one-quarter mile of the Core and Extended Collection Systems in Paradise, including both public and private schools. No schools exist within one-quarter mile of the Export Pipeline System in unincorporated Butte County or Chico. No public airports exist within two miles of the study area. The *Butte County Local Hazard Mitigation Plan Update* (Butte County 2019b), *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008), and *Chico 2030 General Plan* (City of Chico 2017) provide emergency evacuation, action, and response plans for county wide and city-wide emergencies.

3.9.1.2 Previous Site Investigations

Database Searches

Database searches were conducted on the Department of Toxic Substances Control (DTSC) Envirostor database and the SWRCB GeoTracker database to identify any active and closed sites where releases

or spills of hazardous materials have occurred within the study area. The search performed for this assessment was conducted in April 2022. Several sites were identified as containing potentially hazardous materials handling, storage, or incidents in the computerized regulatory databases searched on a list of sites complied pursuant to California Government Code Section 65962.5. In total, thirty-six sites were identified in the study area, but only one site was identified as a site of concern because it is still under remediation and is not yet considered closed.

One state response site and one school investigation site were identified within the Core Collection System footprint of the Town. A state response site is a site that the DTSC is leading the remediation of the site. A school investigation site is a site that DTSC is investigating for contamination. The state response site is in the core collection system at 8336 Skyway at a former air conditioning and radiator repair facility. The site has been fully remediated from arsenic and lead contamination found in the soil and certified by DTSC. Contaminated soils were disposed of, and the site was restored by backfilling the excavation with clean soil. Groundwater monitoring was performed to confirm that no groundwater contamination remained. The 8336 Skyway site currently has land use restrictions to limit the use of the property for commercial and industrial uses. The school investigation site is in the Extended Collection System at Ridgeview Continuation High School, located at 5944 Maxwell Drive in Paradise; however, the site is no longer active and no clean up action is required at this site according to DTSC. No sites were identified in the study area along the Export Pipeline System (Envirostor 2022).

Thirty-four leaking underground storage tank (LUST) sites and cleanup program sites exist in the study area for the Core and Extended Collection Systems in Paradise; however, only one of the sites remains open. The open LUST site is located within the Extended Collection System footprint but not within the Core Collection System footprint (GeoTracker 2022). This site is called the Cypress Lane Paradise site and is located at 1620 Cypress Lane in Paradise. During Camp Fire debris removal, a 500-gallon residential leaking underground storage tank containing kerosine was discovered at the Cypress Lane Paradise site. The tank has been subsequently removed; however, the site has not yet been remediated. While several open and closed leaking underground storage tank (LUST) sites and cleanup program sites exist near the Export Pipeline System alignment, only one closed LUST site exists within the Export Pipeline System alignment footprint (Envirostor 2022). Because this site is closed, it is no longer considered a threat from hazardous materials.

3.9.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on hazards and hazardous materials. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.9.2.1 Federal

Hazardous Waste Management

The Federal Toxic Substances Control Act of 1976 and the Resource Conservation and Recovery Act of 1976 established a program administered by the USEPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste.

The Proposed Project will be subject to these hazardous waste management regulations.

Asbestos National Emission Standards for Hazardous Air Pollutants

The USEPA's Asbestos National Emission Standards for Hazardous Air Pollutants regulations specify work practices for asbestos to be followed during demolition and renovation of all structures, installations, and buildings (excluding residential buildings that have four or fewer dwelling units).

The Proposed Project will be subject to the Asbestos National Emission Standards for Hazardous Air Pollutants during construction.

Universal Waste Management

40 CFR Part 273 governs the collection and management of widely generated waste, including batteries, pesticides, mercury-containing equipment, and bulbs. This regulation streamlines the hazardous waste management standards and ensures that such waste is diverted to the appropriate treatment or recycling facility.

Hazardous waste generated by the Proposed Project will be subject to 40 CFR Part 273.

U.S. Department of Labor, Occupational Safety and Health Administration)

29 CFR Part 1910, Occupational Safety and Health Standards, requires facilities that use, store, manufacture, handle, process, or move hazardous materials to conduct employee safety training; inventory safety equipment relevant to potential hazards; have knowledge on safety equipment use; prepare an illness prevention program; provide hazardous substance exposure warnings; prepare an emergency response plan, and prepare a fire prevention plan. 29 CFR Part 1926 establishes similar safety and health regulations for construction.

The Proposed Project will be held to the standards of the Occupational Safety and Health Administration.

U.S. Department of Transportation

Transportation of hazardous materials is regulated by the US Department of Transportation's Office of Hazardous Materials Safety. The office formulates, issues, and revises hazardous materials regulations under the Federal Hazardous Materials Transportation Law.

Hazardous materials transport associated with the Proposed Project will be subject to these regulations.

3.9.2.2 State

California Hazardous Waste Control Law

The California Hazardous Waste Control Law is administered by the California Environmental Protection Agency to regulate hazardous wastes. The California Hazardous Waste Control Law lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal and transportation; and identifies some wastes that cannot be disposed of in landfills.

The waste generated by the Proposed Project will be subject to conformance with the Hazardous Waste Control Law.

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace.

The Proposed Project will be subject to the California Occupational Safety and Health Administration's standards.

Field Act

Under the Field Act, the Department of General Services is required to supervise the design and construction, reconstruction, or alteration of any school buildings to ensure that the plans and specifications comply with adopted rules, regulations, and building standards for the protection of life and property.

The Proposed Project will be subject to the standards of the Field Act.

Lead-Based Paint

The California Department of Public Health enforces lead laws and regulations related to the prevention of lead poisoning in children, prevention of lead poisoning in occupational workers, accreditation and training for construction-related activities, lead exposure screening and reporting, disclosures, and limitations on the amount of lead found in products. Accredited lead specialists are required to find and abate lead hazards in a construction project and to perform lead-related construction work in an effective and safe manner. Specific regulations include:

California Health & Safety Code Section 105250: Establishes a program to accredit lead-related construction training providers and certify individuals to conduct lead-related construction activities.

California Civil Code Sections 1102 to 1102.16: Requires the disclosure of known lead-based paint hazards upon sale of a property.

California Labor Code Sections 6716 to 6717: Provides for the establishment of standards that protect the health and safety of employees who engage in lead-related construction work, including construction, demolition, renovation, and repair.

California Health & Safety Code Sections 105185 to 105197: Establishes an occupational lead poisoning prevention program to register and monitor laboratory reports of adult lead toxicity cases, monitor reported cases of occupational lead poisoning to ascertain lead poisoning sources, conduct investigations of take-home exposure cases, train employees and health professionals regarding occupational lead poisoning prevention, and recommended means for lead poisoning prevention.

The Proposed Project will be subject to conformance with all lead-based paint regulations.

State Water Resources Control Board

The SWRCB protects water quality in California by setting statewide policy. The SWRCB supports the nine Regional Water Quality Control Boards, which, within their areas of jurisdiction, protect surface and groundwater from pollutants discharged or threatened to be discharged to the waters of the state.

The Proposed Project will subject to SWRCB regulations to protect water quality.

California Health and Safety Code – Handling and Storage of Hazardous Waste

In California, the handling and storage of hazardous materials is regulated by Chapter 6.95 of the California Health and Safety Code. Under Sections 25500–25543.3, facilities handling hazardous materials are required to prepare a Hazardous Materials Business Plan.

The Proposed Project will be subject to the principles of the California Health and Safety Code for the handling and storage of hazardous waste.

California Health and Safety Code – Transportation of Hazardous Waste

In California, transportation of hazardous waste is regulated under Chapter 6.5 of the California Health and Safety Code. Under Section 21560, hazardous waste generators must complete a manifest for the waste before it is transported or offered for transportation.

Transportation of hazardous waste associated with the Proposed Project will be subject to the standards of Chapter 6.5 of the California Health and Safety Code.

Emergency Response/Evacuation Plans

The state of California passed legislation authorizing the Office of Emergency Services to prepare a Standard Emergency Management System program, which sets forth measures by which a jurisdiction should handle emergency disasters.

The Proposed Project would not conflict with and will be held to the standards of the local emergency response and evacuation plans.

California Disaster and Civil Defense Master Mutual Aid Agreement

The California Disaster and Civil Defense Master Mutual Aid Agreement states that all resources and facilities of the state, including all political subdivisions, shall voluntarily aid and assist each other in the event of a disaster by the interchange of services, including rescue, relief, evacuation, rehabilitation, and reconstruction (California Office of Emergency Services 1950).

The Proposed Project is a part of the California Disaster and Civil Defense Master Mutual Aid Agreement.

3.9.2.3 Regional and Local

Butte County Local Hazard Mitigation Plan Update

The *Butte County Local Hazard Mitigation Plan Update* (Butte County 2019b) includes an assessment of the county's risk and vulnerability related to natural and other identified hazards and a comprehensive mitigation strategy which includes actions and projects designed to mitigate or reduce the impacts of those hazards and to increase community resiliency.

The Proposed Project will be held to the strategies in the *Butte County Local Hazard Mitigation Plan Update*.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following goals, policies related to hazards and hazardous materials that are relevant to the Proposed Project:

- **Goal HS-11**: Reduce risks from wildland fire and urban fire.
- **Policy HS-P11.1**: Fire hazards will be considered in all land use and zoning decisions, environmental review, subdivisions review and the provision of public services.
- **Policy HS-P11.2**: Create communities that are resistant to wildfire by supporting the implementation of community wildfire protection plans and wildfire fuel load reduction measures in coordination with the appropriate government, community group, or non-profit organization and California Department of Forestry and Fire Protection (CALFIRE).
- **Policy HS-P11.3**: The County supports the Wildfire Mitigation Action Plan, the Butte County Local Hazard Mitigation Plan (LHMP), and the Butte Unit Community Wildfire Protection Plan prepared by CALFIRE and will cooperate with the Butte County Fire Department and the Butte County Fire Safe Council in implementing these plans.
- **Policy HS-P11.4**: New development projects will meet current fire safe ordinance standards for adequate emergency water flow, emergency vehicle access, signage, evacuation routes, fuel management, defensible space, fire safe building construction and wildfire preparedness.
- **Goal HS-12**: Protect people and property from wildland or urban fires.
- **Policy HS-P12.4**: All development projects in wildland urban interface areas in High or Very High Fire Hazard Severity Zones will provide, at a minimum, small-scale water systems for fire protection.
- **Goal HS-13**: Identify safe and effective evacuation routes and access for fire prevention and suppression
- **Policy HS-P13.1**: New development in High or Very High Fire Hazard Severity Zones, as shown in Figure HS-9, shall identify access and egress routes and make improvements or contribute to a fund to develop upgrade and maintain these routes.
- **Goal HS-14**: Reduce risks from the harmful effects of hazardous materials.
- **Policy HS-P14.1**: Hazardous materials carrier routes shall be designated to direct hazardous materials transport away from populated areas.
- **Policy HS-P14.3**: Hazardous and toxic materials shall be transported only along the designated highway and rail routes shown in Figure HS-11.
- **Policy HS-P14.4**: Proponents of new hazardous waste management facilities shall demonstrate that potential environmental impacts can be mitigated as a condition of approval.
- **Goal HS-15**: Ensure that Butte County is prepared for emergency situations.
- **Policy HS-P15.3**: Emergency access routes shall be kept free of traffic impediments.

Hazardous Materials Joint Powers Agreement

The Hazardous Materials Joint Powers Agreement was initiated in December 1990 by Butte County and its five cities: Biggs, Chico, Gridley, Oroville, and the Town of Paradise. It is governed and enforced by the fire chiefs of the six signatory agencies.

The study area is located within the jurisdiction of the Hazardous Materials Joint Powers Agreement.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following goals, policies, and actions related to hazards and hazardous materials that are relevant to the Proposed Project:

- **Goal S-1**: Minimize the loss of life and property resulting from natural and human-caused hazards.
- **Policy S-1.1, Emergency Preparedness**: Promote public safety from hazards that may cause death, injury, or property damage through emergency preparedness and awareness.
- **Action S-1.1.1, Emergency Plan Maintenance**: Maintain, and update as needed, the City's Emergency Plan to guide emergency management in the City.
- **Action S-1.1.2, Emergency Response Awareness**: Promote community preparedness for hazards and awareness of emergency notification methods.
- **Action S-1.1.3, Incident Training**: Continue to participate in the Federal Emergency Management Agency's National Incident Management System program, which provides a standardized approach to emergency incidents.
- **Goal S-4**: Continue to provide effective and efficient fire protection and prevention services to Chico area residents.
- **Policy S-4.1, Fire Safety Staffing**: Maintain adequate fire suppression and prevention staffing levels.
- **Policy S-4.2, Interagency Coordination**: Continue to maintain interagency relationships to maximize fire protection services and support programs that reduce fire hazards.
- **Policy S-4.3, Fire Safety Standards and Programs**: Support the development and implementation of standards and programs to reduce fire hazards and review development and building applications for opportunities to ensure compliance with relevant codes.
- **Goal S-8**: Reduce the potential for public exposure to hazardous materials or the accidental releases of toxic or hazardous substances.
- **Policy S-8.1, Hazardous Materials Safety Coordination**: Support efforts to reduce the potential for accidental releases of toxic and hazardous substances.
- **Action S-8.1.1, Planning for Hazardous Materials Safety**: Consult with the State Office of Emergency Services, the State Department of Toxic Substances Control, the California Highway Patrol (CHP), Butte County, and other relevant agencies regarding hazardous materials routing and incident response programs.
- **Policy S-8.2, Reduce Toxic Materials Use**: Reduce the use of hazardous and toxic materials in City operations.

The Proposed Project will be subject to the goals, policies, and actions of the *Chico 2030 General Plan*.

Town of Paradise General Plan

The *Town of Paradise Safety Element* (2022) and the *Town of Paradise Hazardous Waste Management Element* (2022) include the following goals, objectives, and policies related to hazards and hazardous materials that are relevant to the Proposed Project:

Safety Element (updated June 2022)

- **Goal SG-1:** Assure that law enforcement and fire protection services are enhanced sufficiently to meet the demands of new and existing land use development

- **Goal SG-2:** Provide adequate access, including emergency vehicle access and evacuation, to all new parcels and existing parcels where feasible.
- **Goal SG-3:** Strive to protect the Paradise community from injury, loss of life and property damage resulting from catastrophes and hazardous conditions.
- **Goal SG-6:** Improve the communication systems used during Town-wide emergencies, such as wildland fires, earthquakes or volcanic occurrences.
- **Objective SO-2:** Maintain an overall fire insurance (ISO) rating of three or better, and an emergency fire response within five minutes for 90% of all emergency incidents within Town limits.
- **Objective SO-3:** Maintain the *Paradise Multihazard Disaster Plan* and conduct practice exercises throughout the life of the *General Plan*.
- **Policy SP-1**: New and unmitigated land use development shall not cause the police and fire protection services emergency response times to full below the service levels established by this plan.
- **Policy SP-2**: Through the development review process, adequate roads shall be required to be constructed and/or improved for emergency vehicle access, particularly in high wildland fire hazard areas.
- **Policy SP-3**: Future development should be designed and constructed to take maximum advantage of known fire and crime prevention siting, orientation and building techniques.
- **Policy SP-5**: The Town should promote fire prevention by continuing to require brush removal and fuel load clearing as ongoing conditions of development approval and property maintenance.
- **Policy SP-8:** The Town shall encourage Butte County to enforce standards conforming to the fire safety standards established by the state Board of Forestry for state responsibility areas within the Paradise secondary and tertiary planting areas, including:

    - Road standards for fire equipment access
    - Standards for signs identifying streets, roads and buildings
    - Minimum private water supply reserves for emergency fire use
    - Fuel breaks and greenbelts
    - Land use policies and safety standards that take into account the recurrent nature of wildland fires
    - Design standards establishing minimum road widths and clearances around structures
    - Emergency preparedness protocol and procedures
    - Maximum length of cul-de-sac roadways

- **Policy SP-13**: The Town shall attempt to require all new development to comply with the airport height restriction policy, airport safety area(s) policies and land use guidelines for safety compatibility of the Paradise Skypark Airport Land Use Plan.
- **Policy SP-14**: Detrimental and toxic discharge into natural waterways shall not be permitted.

Hazardous Waste Management Element (updated June 2022)

- **Goal SG-7:** Provide for the safe disposal and handling of toxic and hazardous waste.

- **Goal SG-8:** Direct and promote hazardous waste management practices and technologies that will, in order of priority:
    - Reduce the use of hazardous substances and the generation of hazardous wastes at their source;
    - Recover and recycle the remaining waste for reuse to the extent feasible;
    - Treat those wastes not amenable to source reduction or recycling so that the environment and community health are not harmed by their ultimate release or disposal;
    - Ensure the safe transportation and disposal of treated hazardous waste residuals in repositories made secure from liquids that might create a toxic leachate and contaminate groundwater.
- **Goal SG-9**: Reduce the need for additional hazardous waste disposal sites.
- **Objective SO-7:** Minimize the generation of hazardous wastes by seeking waste reduction alternatives which are safe, economically viable, and which represent the best technology available to the generator.
- **Policy SP-24:** The county, and each city, shall require that all local land use decisions on siting specified hazardous waste management facilities are consistent with the goals and policies and the siting criteria contained in the Hazardous Waste Management Plan.

The Proposed Project will be subject to the goals, objectives, and policies of the *Safety Element* and *Hazardous Waste Management Element*.

3.9.3 Method of Analysis

This section describes the methods used to analyze hazards and hazardous materials within the study area.

3.9.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on hazards and hazardous materials if it would:

- **Impact HAZ-1**: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- **Impact HAZ-2**: 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
- **Impact HAZ-3**: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school
- **Impact HAZ-4**: 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
- **Impact HAZ-5**: 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

- **Impact HAZ-6**: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- **Impact HAZ-7**: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires

3.9.3.2 Approach to Analysis

Construction, Operations and Maintenance

A desktop analysis was completed to collect and analyze data related to hazards and hazardous materials in the study area. Information was collected on known hazardous material sites within the study area and GIS data and aerial imagery were used to identify the hazardous sites within the study area. Additionally, the following resources were used for data collection:

- Envirostor Database (Envirostor 2022)
- GeoTracker Database (GeoTracker 2022)
- CALFIRE's Fire Hazard Severity Zone Maps (CALFIRE 2008)

The potential impacts from construction, operation and maintenance of the Proposed Project on hazards and hazardous materials were evaluated qualitatively using known hazardous materials site data and quantitatively using regulations that would be applicable to the Proposed Project.

3.9.4 Impact Analysis

This section describes the environmental impacts on hazards and hazardous materials that could result from implementation of the Proposed Project. The analysis considers consistency with existing policies and regulations, as well as impacts to the study area from hazards and hazardous materials that the Proposed Project may introduce to the study area.

3.9.4.1 Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (Less than Significant with Mitigation Incorporated)

Construction

The Proposed Project would involve the transport and use of common construction materials such as vehicle fuels, grease, asphalt, concrete, lubricants, and drilling fluids which could pose a threat as hazardous materials. Using these materials, including their routine transport and disposal, carries the potential for an accidental release into the local environment, including near the waterbodies that are the locations of the proposed trenchless crossings (Butte Creek, Comanche Creek and Little Chico Creek). However, the Proposed Project will require the implementation of a SWPPP and coverage under the NPDES construction general permit for discharges of storm water associated with construction and land disturbance activities. The SWPPP will include measures to safely use and store such hazardous materials to reduce impacts. One open LUST site, located at 1620 Cypress Lane Paradise, exists in the study area within the Extended Collection System footprint. While the tank has been removed from this site, it has not yet been fully remediated and has the potential to contain contaminated soils that could be encountered during extended sewer line construction. However, any contaminated soils or groundwater encountered by the project will be managed, stored, and disposed of in accordance with requirements of the SWPPP and NPDES construction general permit thus

reducing impacts. Additionally, any hazardous materials encountered, including contaminated soils, will be managed and disposed of in accordance with California Department of Toxic Substances Control regulations. Further, the Proposed Project will comply with Regional, State, and Federal requirements for the transport, use, and disposal of hazardous materials. However, with vehicle and equipment use comes the potential for spills during maintenance and refueling which would be a significant impact. As a result, the Proposed Project would have a significant impact on hazards to the public or environment created through routine transport, use, or disposal of hazardous materials.

Mitigation. To minimize significant impacts from the routine transport, use, or disposal of hazardous materials associated with the construction of the Proposed Project to a less than significant level, mitigation measure **MM-HAZ-1** will be implemented**.**

MM-HAZ-1: Vehicle Equipment Access and Fueling: During construction, the Town will require and enforce through encroachment permit conditions and construction documents that all vehicle traffic associated with Proposed Project-related activities will be confined to established roads, staging areas, and parking areas. Additionally, maintenance or refueling of vehicles or equipment must occur in designated areas and/or secondary containment away from waterbodies.

Significance after Mitigation. With implementation of **MM-HAZ-1**, impacts from the transport, use, or disposal of hazardous materials would be reduced to a less than significant level.

Operation and Maintenance

Operation and maintenance of the Proposed Project would require the routine inspection of the Core and Extended Collection Systems and Export Pipeline System. This would involve the use of trucks and equipment that would use fuel and grease. However, these vehicles would be operated in areas that already experience vehicle traffic and these inspections would be very infrequent, not increasing the potential for fuel and grease drips significantly over existing levels. Therefore, the Proposed Project would have a less-than-significant impact on hazards to the public or environment created through routine transport, use, or disposal of hazardous materials.

Mitigation: No mitigation required.

3.9.4.2 Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (Less than Significant Impact)

Construction

As discussed above, the Proposed Project would involve the use of common construction materials such as vehicle fuels, grease, asphalt, concrete, lubricants, and drilling fluids that would be hazardous if they were to accidentally be released into the environment. However, the Proposed Project will be required to implement a SWPPP with best management practices to reduce the likelihood and severity of the release of construction related pollutants like fuel and grease to a less-than-significant level. Any contaminated soils or groundwater encountered by the project will be managed, stored, and disposed of in accordance with requirements of the SWPPP and NPDES construction general permit reducing impacts to a less-than-significant level. Therefore, the Proposed Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions

involving the release of hazardous materials into the environment and impacts would be less than significant.

Mitigation: No mitigation required.

Operation and Maintenance

As discussed above, Operation and Maintenance of the Proposed Project would require the routine inspection of the Core and Extended Collection Systems and Export Pipeline System. This would involve the use of trucks and equipment that would use fuel and grease. However, these vehicles would be operated in areas that already experience vehicle traffic and inspections will be performed periodically according to the schedule discussed in Section 2.8, Proposed Operations and Maintenance; as a result, operation and maintenance of the Proposed Project would not increase the potential for fuel and grease drips significantly over existing levels. Therefore, the Proposed Project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment; impacts would be less than significant during operation and maintenance.

Mitigation: No mitigation required.

3.9.4.3 Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Less than Significant Impact)

Construction

Fourteen schools exist within one-quarter mile of the Core and Extended Collection Systems in Paradise. No schools exist within one-quarter mile of the Export Pipeline System in unincorporated Butte County or Chico. As discussed above, although the Proposed Project has the potential to emit hazardous materials or substances through the use of common construction materials, the risk of release would be reduced through implementation of the Project SWPPP.

The Proposed Project would require construction vehicles to be operated within the study area over the construction duration, which could result in emissions of air quality pollutants within one-quarter mile of an existing school. Fuel combustion results in the release of air quality pollutants that can be considered hazardous. Air quality impacts are discussed in Section 3.3 Air Quality. As discussed in Section 3.3, construction activities would be temporary and short-term. Only portions of the study area would be disturbed at a time throughout the construction period, with operation of construction equipment occurring intermittently throughout the course of a day rather than continuously at any one location in the study area. Operation of construction equipment within portions of the study area would allow for the dispersal of TAC emissions by avoiding continuous construction activity in the portions of the study closest to existing sensitive receptors. Additionally, the Proposed Project will implement BCAQMD BMPs (listed in Section 3.3 Air Quality) to reduce diesel particulate matter. Therefore, with implementation of a Project SWPPP, BCAQMD BMPs, and consistency with hazardous materials handling and air quality district requirements, impacts from construction within one-quarter mile of an existing school would be less than significant.

Mitigation: No mitigation required.

Operation and Maintenance

As discussed above, operation and maintenance of the Proposed Project would require the periodic inspection of the Core and Extended Collection Systems and Export Pipeline System. This would involve the use of a small number of trucks and equipment that would use and emit potentially hazardous materials. However, these vehicles would be operated in areas near schools that already experience vehicle use and these inspections would be performed once or twice a year according to the schedule discussed in Section 2.8, Proposed Operations and Maintenance; therefore, the inspections would not increase the potential for emissions significantly over existing levels.

As discussed in Section 2.8 Proposed Operation and Maintenance, while the Core Collection System, Extended Collection System, and Export Pipeline System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. As discussed for the periodic inspections, pipeline repairs would involve the use of a small number of trucks and equipment that would use and emit potentially hazardous materials. However, this effort would be temporary and rare, and these vehicles would be operated in areas near schools that already experience vehicle use. Therefore, the Proposed Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substance, or waste that would have a significant impact within one-quarter mile of a school and impacts would be less than significant.

Mitigation: No mitigation required.

3.9.4.4 Impact HAZ-4: 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 (Less than Significant Impact with Mitigation Incorporated)

Construction, Operation, and Maintenance

A desktop search of the Envirostor and GeoTracker databases was performed to find known potentially hazardous sites in the study area. As described above, one open site at 1620 Cypress Lane was identified in the study area during the desktop search. The site was classified as an open LUST site. While the tank has been removed from this site and would not pose a threat from a new release of kerosine, the site has not yet been fully remediated and has the potential to contain contaminated soils that could be encountered during extended sewer line construction. However, any contaminated soils encountered by the project will be managed, stored, and disposed of in accordance with requirements of the SWPPP and NPDES construction general permit thus reducing impacts. Additionally, any hazardous materials encountered, including contaminated soils and groundwater, will be managed and disposed of in accordance with California Department of Toxic Substances Control regulations. Further, the Proposed Project will have to comply with regional, state, and federal requirements for the transport, use, and disposal of hazardous materials. However, while unlikely, the potential remains to encounter contaminated soils from the Cypress Lane site. As a result, the Proposed Project would be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 that would create a significant hazard to the public or the environment and impacts would be significant.

Mitigation. To minimize potentially significant impacts from being located on a hazardous materials site associated with construction, operation, and maintenance of the Proposed Project to a less than significant level, mitigation measure **MM-HAZ-2** will be implemented.

MM-HAZ-2: Cypress Lane Site Specific Contaminated Soil Management Plan. Prior to any work set to occur within 500 feet of the Cypress Lane Site, a parcel-specific contaminated soil management plan shall be prepared to address the known contamination at the site for submittal to and approval by DTSC. The plan shall include specific hazards and provisions for how soils and groundwater will be managed at the Cypress Lane Site. The plan shall provide requirements for soil testing and characterization, soil disposal protocols, protocols governing the discovery of unknown contaminants, and soil management. The plan shall also include health and safety provisions including training requirements for site workers who may be handling contaminated material, including the transport and disposal of contaminated material; chemical exposure hazards in soil, groundwater, or soil vapor that are known to be present at the property; and mitigation and monitoring measures that are protective of the site worker and public health and safety. These health and safety provisions shall be prepared to meet OSHA requirements, Title 29 of the CFR 1910.120 and CCR Title 8, Section 5192, and all applicable federal, state, and local regulations and agency ordinances related to the proposed management, transport, and disposal of contaminated media during implementation of work and field activities. The plan shall be signed and sealed by a Certified Industrial Hygienist, who is licensed by the American Board of Industrial Hygiene. The plan shall be enforced by DTSC or another applicable regulator and included as a requirement of construction/in construction documents.

Significance after Mitigation. With implementation of **MM-HAZ-2**, impacts from work located at a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 that would create a significant hazard to the public or the environment would be reduced to a less than significant level.

3.9.4.5 Impact HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area (No Impact)

Construction, Operation, and Maintenance

There are no public airports within 2 miles of the Proposed Project. Therefore, the Proposed Project would have no impact on safety hazards or excessive noise for people residing or working in the project area due to nearby airports.

Mitigation: No mitigation required.

3.9.4.6 Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant with Mitigation Incorporated)

Construction

The Proposed Project study area includes emergency evacuation routes, and all four lanes of Skyway would be required to be available in some emergency situations. Construction would be completed in phases and would not require permanent road closures. For locations where the pipeline is being

installed along existing Town public ROW, there would be single-lane road closures with traffic controls around the work areas. Temporary full road closures are not anticipated; however, could occur, if necessary for public safety for a short duration (approximately 2-4 hours).

However, installation of the Export Pipeline System would occur along Skyway. Therefore, the construction area for the Export Pipeline System along Skyway could potentially interfere with the flow of evacuation traffic. As a result, the impact on an emergency response or emergency evacuation plan would be significant during construction.

Mitigation. To minimize significant impacts on an emergency response and emergency evacuation plan associated with construction of the Proposed Project to a less than significant level, mitigation measures **MM-HAZ-3, MM-HAZ-4, MM-HAZ-5, and MM-HAZ-6** will be implemented.

As discussed in Section 3.9.2.3, any contractor on the project, whether in the Town, City or County, will be required to implement procedures defined in the *Butte County Local Hazard Mitigation Plan Update*, as adopted and annexed by the Town of Paradise. As stated in Section 3.9.2.3, The Butte County Local Hazard Mitigation Plan Update (Butte County 2019b) includes an assessment of the county's risk and vulnerability related to natural and other identified hazards and a comprehensive mitigation strategy which includes actions and projects designed to mitigate or reduce the impacts of those hazards and to increase community resiliency. The Proposed Project will be held to the strategies in the Butte County Local Hazard Mitigation Plan Update. In addition, the same section also refers to the *Butte County General Plan 2030* (Butte County 2012), noting that the Town would be held accountable to multiple goals and associated policies related to hazards and hazardous material, such as: "Policy HS-P15.3: Emergency access routes shall be kept free of traffic impediments." Finally, Section 3.9.2.3 also states that the Town will be held to their own policies presented in drafts of the "*Town of Paradise General Plan*, Safety Element (1994) and Hazardous Waste Management Element (1994)". Policies within these elements include: Policy SP-1: New and unmitigated land use development shall not cause the police and fire protection services emergency response times to fall below the service levels established by this plan, and Policy SP-2: Through the development review process, adequate roads shall be required to be constructed and/or improved for emergency vehicle access, particularly in high wildland fire hazard areas. Proposed Project mitigation measures, discussed below support implementation of the County and Town policies by ensuring evacuation routes would not be blocked during an emergency, that emergency response services have access to major routes, which is critical during an emergency, and that there is a plan for rapid demobilization in a situation requiring evacuation.

MM-HAZ-3: Road Closure Restrictions. The Proposed Project will require a Butte County encroachment permit. The standard Butte County encroachment permit requires that "at least one lane of any public road … shall be kept open for travel by the general public at all times." Skyway consists of four lanes of traffic, two in each direction. The Proposed Project will require a Town of Paradise encroachment permit for work within the Town limits.

The Proposed Project will be held accountable to the *Butte County Local Hazard Mitigation Plan Update* and policies included in the *Butte County General Plan* and the Town's draft *Safety Element* (1994) and *Hazardous Waste Management Element* (1994). Further, during construction,

to minimize the potential for impeding emergency response vehicles at any time, the Proposed Project will only close one lane of traffic at any given time, other than short instances where a two-lane closure might be required for relocation of large equipment; this will be a requirement stated in the construction documents issued by the Town. Therefore, three lanes of Skyway will always remain open.

MM-HAZ-4: Rapid Demobilization Plan. **The Proposed Project will be held accountable to the *Butte County Local Hazard Mitigation Plan Update* and policies included in the *Butte County General Plan* and the Town's draft *Safety Element* (1994) and *Hazardous Waste Management Element* (1994). Further, in** the contractor construction documentation issued by the Town, as part of special conditions, the contractor will be required to prepare a rapid demobilization plan covering the one Skyway lane it occupies; this will be enforceable as a contract provision. **D**emobilization **would require** the contractor **to cover** any open trench with metal plates sufficiently strong to carry vehicle traffic, patching cut pavement, removing traffic barrier rails (if used), and moving construction equipment completely clear of the road. During fire season, the contractor will be required to have sufficient metal plating on-site to immediately cover any open trench, and conversely the length of open trenching will be limited to the amount of metal plating on-site. The contractor will also be required to have sufficient cold-mix asphalt on site to temporarily patch any cut road surface. The plan will be reviewed and approved by the Public Works Director and enforced by the Town.

MM-HAZ-5: Evacuation Warning Procedures. The Proposed Project will be held accountable to the *Butte County Local Hazard Mitigation Plan Update* and policies included in the *Butte County General Plan* and the Town's draft *Safety Element* (1994) and *Hazardous Waste Management Element* (1994). Further, to minimize the potential for impeding emergency response vehicles and at the direction of the Town **during an evacuation,** the contractor will cease all construction operations and implement the rapid demobilization plan **(MM-HAZ-4)**. As part of the rapid demobilization plan approved by the Public Works Director and enforced by the Town as a contract provision, the contractor will be required to demobilize off of Skyway, leaving all four lanes clear for public traffic and emergency crews, within four hours if no traffic barrier rails are being used and within eight hours if traffic barrier rails are being used. Again, other than short instances where a two-lane closure might be required for public safety, during construction, three of the four lanes of Skyway will be continuously open.

MM-HAZ-6: Traffic Management Plan. During final design, the Town will require that the engineering designer prepare a Traffic Management Plan that complies with *Section 110.7 Traffic Control Plans of*

the Highway Design Manual (Caltrans 2020), that will be included in the contractor construction documentation as special conditions, enforceable as a contract provision, and implemented by the construction contractor. The designer will submit the plan to the Town of Paradise, Butte County, and City of Chico's transportation and engineering departments for review and approval before it is included in the construction documents. The plan will be enforced by the Town and/or contracted construction manager hired by the Town for the project. The plan will be prepared in accordance with professional engineering standards and will include, but not be limited to, the following requirements:

- Schedule truck trips outside of the peak traffic hours, when feasible.
- Store all equipment and materials in designated staging areas.
- Use of signage to guide vehicles, bicyclists, and pedestrians through and/or around the construction areas.
- Install traffic control devices where traffic conditions warrant.
- Provide safe detours to reroute vehicle, bicycle, and pedestrian traffic.
- Encourage construction crews to park at staging areas to limit lane closures in the public right-of-way.
- Consult with Butte Regional Transit prior to construction to coordinate bus stop relocations (as necessary).
- Coordinate all construction activities with the emergency service providers in the area.
- Stop all construction work during any period of time declared as a Red Flag Warning. A Red Flag Warning is issued by the National Weather Service for weather events that may produce an increased risk of fire danger.
- Post notices and/or appropriate signage to notify the public of upcoming construction activities, including exact location, schedule, and duration. This will include alternative access routes if a short-term full-lane closure will be required to transport equipment.
- The Traffic Management Plan will be enforced by the Town of Paradise.

Significance after Mitigation. With implementation of **MM-HAZ-3**, **MM-HAZ-4 MM-HAZ-5** and **MM-HAZ-6**, impacts on an emergency response or evacuation plan would be reduced to a less than significant level.

Operation and Maintenance

No full or partial road closures would be required for routine inspections and maintenance activities. These activities would occur periodically, as described in Section 2.8, Proposed Operations and Maintenance, and would require few vehicles so they would not alter the traffic volumes on roads in the study area. Therefore, the Proposed Project would not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan and impacts would be less than significant.

Mitigation: No mitigation required.

3.9.4.7 Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires

Construction, Operation, and Maintenance

As discussed in Section 0, Wildfire, the Study Area is in a LRA Very High FHSZ in Paradise. The export pipeline passes through State or Federal Responsibility Area Very High, High, and Moderate FHSZs (CALFIRE 2008). Project construction and routine maintenance would temporarily expose workers to hazards associated with being in areas with high wildfire danger. Therefore, impacts would be significant.

Mitigation. To minimize significant impacts from wildfire risk associated with construction of the Proposed Project to a less than significant level, mitigation measures **MM-HAZ-1, MM-HAZ-7, MM-HAZ-8**, and **MM-HAZ-9** will be implemented.

MM-HAZ-7: **Incorporate Fire Prevention Measures**. Require that construction crews and equipment avoid circumstances that could cause wildfire and that crews and staff have access to fire-prevention equipment onsite. Specific fire prevention measures include: fire extinguishers or other approved fire suppressants are to be available at all times, proper storage of flammable materials, safe cutting and welding practices, proper installation of temporary electrical equipment, and use of dust-collecting apparatus on power equipment.

MM-HAZ-8: Incorporate Public Safety Measures. Requires that the public will receive adequate warning of construction activities and any dangerous condition that might result from the use of fences, barriers, lights, flagging, guards, and signs. A plan for these notifications will be incorporated into the Traffic Management Plan.

MM-HAZ-9: Wildland Fire Area. The Contractor will be advised that the Town of Paradise is in a Wildland Fire Area and during the summer months the fire hazard is EXTREME.

Significance after Mitigation. With implementation of **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8, and MM-HAZ-9**, impacts from exposing people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires would be reduced to a less than significant level. Please see Section 0 Wildfire for a complete analysis of the potential for impacts and details on each of the mitigation measures.

3.9.5 Impacts Summary

Table 3.9-1 summarizes the hazards and hazardous materials impacts of the Proposed Project.

Table 3.9-1. Hazards and Hazardous Materials Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials	S/M	MM-HAZ-1	LTS

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact HAZ-2: 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	LTS	N/A	LTS
Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	LTS	N/A	LTS
Impact HAZ-4: 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	S/M	MM-HAZ-2	LTS
Impact HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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	NI	N/A	NI
Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	S/M	MM-HAZ-3, MM-HAZ-4, MM-HAZ-5, MM-HAZ-6	LTS
Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	S/M	MM-HAZ-1, MM-HAZ-7, MM-HAZ-8, and MM-HAZ-9	LTS

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

3.9.6 References

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3.10 Hydrology and Water Quality

This section describes the environmental setting and regulatory framework for hydrology and water quality, and it identifies direct and indirect impacts of the Proposed Project during construction, operation, and maintenance. In particular, the hydrology and water quality analysis addresses hydrology, surface water quality, groundwater, and floodplains in the study area where hydrology and water quality are most susceptible to change as a result of the Proposed Project's construction, operation, and maintenance. The study area for hydrology and water quality is the groundwater underlying the site, and the surface waterbodies immediately surrounding the Proposed Project in Butte County, Chico, and Paradise, including the west branch of the Feather River, Little Butte Creek, Butte Creek, Little Chico Creek, and Comanche Creek. The Sacramento River is also part of the study area for hydrology and water quality because the treated wastewater from the Chico WPCP would continue to be discharged to the Sacramento River.

3.10.1 Environmental Setting

3.10.1.1 Regional Context

Butte County is located in the Sacramento River Hydrological Region. This region includes the Sacramento River, which is the longest river system in California, and its tributaries, including the Pit, Feather, American, and Bear Rivers. The Sacramento River Hydrological Region is the primary water source for many of the urban and agricultural areas of California. Surface storage reservoirs provide much of the water supply in the region (Butte County 2012).

Approximately 69 percent of Butte County's water needs are provided by surface water sources and approximately 31 percent of water needs are supplied by groundwater sources. Approximately 90 percent of water demand in Butte County is agricultural, 5 percent wildlife, and 5 percent residential (Butte County 2012).

3.10.1.2 Surface Water

According to the Hydrologic Unit Code (HUC) data provided by the NRCS (2018), the study area crosses the following nine hydrologic units:

- Dry Creek (HUC12 180201580401)
- Little Dry Creek (HUC12 180201580403)
- Little Butte Creek (HUC12 180201580201)
- Lake DeSalba-Butte Creek (HUC12 180201580202)
- Hamlin Slough (HUC12 180201580203)
- Dubock Slough-Little Butte Creek (HUC12 180201580204)
- Durham Slough-Butte Creek (HUC12 180201580205)
- Comanche Creek (HUC12 180201580301)
- Little Chico Creek (HUC12 180201580302)

Feather River watershed accumulates in Lake Oroville and supplies the majority of surface water supply to Butte County residents and businesses as a part of the State Water Project. The water rights

of local irrigation districts are provided through the California water rights priority system (Butte County 2010).

3.10.1.3 Groundwater

Groundwater makes up approximately 75 percent of residential water supply in Butte County. The availability of groundwater depends on climactic, geologic, and hydrologic conditions. Primary sources of groundwater recharge in Butte County are precipitation, infiltration from streams, inflow and percolation of irrigation water in agricultural areas. Groundwater reserves in the county are found in sedimentary deposits of the Sacramento Valley and mountainous areas to the east and north. Major portions of groundwater occur in floodplain and alluvial fan deposits and are unconfined or semi-unconfined (Butte County 2012).

Butte County is located within the Sacramento Valley groundwater basin. The groundwater basin and its subbasins are primarily located in the western portion of Butte County; groundwater in the eastern portion of the county is found in more limited amounts within volcanic, metamorphic, and granite rock. The Sacramento Valley Groundwater Basins include East Side Basin, East Butte Subbasin, Vina Subbasin, and West Butte Subbasin (Butte County 2010). The Proposed Project is underlain by each of these subbasins.

Depth to groundwater varies substantially throughout the study area, particularly underneath the Core and Extended Collection Systems. Depth to groundwater underneath the collection system varies so greatly due to the Andesite Volcanic formations in this area and the perched water zones. Because of this, groundwater in this area is not consistently monitored by the Groundwater Management Authorities (DWR 2004). Underneath the Export Pipeline System in the Vina Subbasin (Chico area), groundwater levels in the unconfined portion of the aquifer system are encountered at approximately 5 to 7 feet during normal precipitation and up to approximately 16 feet during periods of drought. Annual fluctuation in the confined or semiconfined portion of the aquifer system is approximately 15 to 25 feet during normal years and up to approximately 30 feet during periods of drought (DWR 2004). Depth to groundwater adjacent to Butte Creek, south of Chico, vary between 45 to 121 feet below ground surface depending on agricultural pumping, and wet versus drought conditions (Peterson 2019).

The Butte County Department of Public Health, Environmental Health Division issues well drilling permits for all wells drilled throughout the county. The number of well permit applications provide a general indication of the development of the groundwater resources and potential drilling activities. According to the most recent Butte County Water Inventory and Analysis, Butte County had over 12,000 domestic wells and 2,500 irrigation wells in 2015 (Butte County 2016).

3.10.1.4 Water Quality

The study area is located within the Sacramento Valley Basin which falls under the control of the RWQCB. The Water Quality Control Plan for the Central Valley Region was revised in May 2018. The regulatory mechanism for the discharge of pollutants into the water is the NPDES permit program, which is designed to protect water quality by regulating point sources of pollutants (City of Chico 2017). The Town's sewer system would fall under the City's NPDES permit (Section 2.4.2 Chico Water Pollution Control Plant).

Beneficial Uses

Beneficial uses are a very important aspect of water quality management in California. State law defines beneficial uses of California's waters that may be protected against degradation to include, and not be limited to, "…domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves" (Water Code Section 13050 (f)). Existing beneficial uses are present at the following surface waterbodies in the vicinity of the study area:

- **Big Chico Creek (Hydro Unit Number 509.14):** Agriculture, Recreation, Freshwater Habitat, Migration, and Spawning Habitat
- **Black Butte Reservoir Butte Creek (Hydro Unit Number 522.12):** Agriculture, Recreation, Freshwater Habitat, Spawning Habitat, and Wildlife Habitat

Comanche Creek, Little Butte Creek, Butte Creek, Little Chico Creek have not been assigned beneficial uses.

Feather River

Water quality in Feather River has been identified by the State of California as impaired by copper, mercury, toxicity and more than 15 pesticides including diazinon chlorpyrifos and lindane (USEPA 2021c).

Town of Paradise

Historical use of high-density septic systems and leach fields in Paradise have resulted in surface and groundwater contamination. As discussed in Section 2.3, Project Background, in 1983 James Montgomery Consulting Engineers performed a Phase I Wastewater Management Study for the Town of Paradise to identify existing and potential water quality or public health problems associated with the continued use of individually managed on-site wastewater treatment systems. Results of this study showed evidence of high levels of fecal coliform and septic system effluent in water supply resulting in degradation of water quality. It was therefore recommended in this study that a sewer system or centralized wastewater management facilities be considered in the Town (Montgomery 1983). This led to the development of the Town of Paradise Onsite Wastewater Management Zone in 1992 (S. Hartman, personal communication, November 19, 2021), which is still active and would remain so with implementation of the Proposed Project for those parcels that would not or had not yet connected to the sewer system.

According to the Paradise Irrigation District (PID) *Annual Consumer Confidence Report*, contaminants that may be present in source water (rivers, lakes, streams, ponds, reservoirs, springs, and groundwater wells) as a result of historical septic system usage and wastewater discharges include microbial contaminants, such as viruses and bacteria; inorganic contaminants, such as salts and metals; and organic chemical contaminants, including synthetic and volatile organic chemicals (PID 2019).

Data from the USEPA indicates that leakage of waste from septic leach fields can reach a water source and result in microorganisms, including bacteria, viruses, and parasites being present in the water supply (USEPA 2021d). Unabsorbed phosphorus in leach fields can also travel in groundwater toward a waterbody and become a source of contamination. Additionally, some nitrogen may be removed as

wastewater flows through septic systems and the soil. However, nitrogen that remains can enter the underlying groundwater and flow towards a surface waterbody. If there are a number of septic systems in a small area, the nitrogen flowing through groundwater could overload a waterbody causing eutrophication (USEPA 2020). In addition to contamination from septic systems and leach fields, fire damage from the 2018 Camp Fire caused a potential for pipes to be contaminated with volatile organic compounds such as benzene and others. Volatile organic compounds are known carcinogens, and even low levels of volatile organic compounds are dangerous over time (PID 2019).

City of Chico

According to the *Chico 2030 General Plan*, the primary issues related to surface and groundwater quality in Chico are urban stormwater runoff, groundwater contamination from septic tanks, infiltration of urban stormwater runoff, and pollutants from dry cleaning and industrial uses (City of Chico 2017). In 1985, the City of Chico and Butte County adopted the Nitrate Action Plan to address high levels of nitrates in portions of the groundwater under Chico that resulted from the widespread use of septic tanks within the urban area. As a result, the *Chico Urban Area Nitrate Compliance Plan ("Nitrate Action Plan")* was developed to provide consistency between Chico and Butte County land use and utility infrastructure policies (City of Chico 2017). Also, because of the Nitrate Action Plan, the City of Chico completed sanitary sewer installation in high nitrate areas (referred to as Nitrate Area 3N and Nitrate Area 3S) in 2021.

3.10.1.5 Tsunami, Seiche, and Flood Hazards

According to the DOC tsunami map, the Proposed Project is not located within a tsunami hazard area (DOC 2019b). Further, because the study area is in an inland area away from oceans or other large waterbodies, a seiche is unlikely to occur.

Butte Creek Diversion Channel (National Levee ID 5205000592) is a federal levee that traverses the study area. Therefore, the Proposed Project will be subject to USACE Section 408 permitting requirements. Other Butte County levees also traverse the study area along Comanche Creek and Little Chico Creek; however, these levees are locally constructed, operated and maintained (USACE 2016).

Most of the study area is in a FEMA minimal flood hazard zone. Portions of the study area are also located within Moderate Flood Hazard Areas, which are areas susceptible to a 0.2 percent annual chance or 500-year flood, and Special Flood Hazard Areas, which are areas that are susceptible to a 1 percent annual chance or 100-year flood (FEMA 2020; Butte County 2021d). The Export Pipeline System crossing of Butte Creek and the segment of the pipeline located along Crouch Avenue are located in a Special Flood Hazard Area (Butte County 2021d). In Butte County, a number of developed impoundments and natural wetlands store some of the county's surface water supply and provide flood protection. These developed impoundments include Oroville Dam and Reservoir on the Feather River, Thermalito Afterbay, Thermalito Forebay, Paradise Reservoir, and Magalia Reservoir, and various smaller water storage reservoirs.

3.10.1.6 Stormwater Management

As required by Phase II of the NPDES, Butte County operates under a Small Municipal Separate Storm Sewer System (MS4) stormwater permit, which authorizes the discharge of stormwater to surface water

in the state from small municipal separate storm sewer systems. The Town's MS4 Permit is currently operating under an approved waiver secured in 2021 due to the reduced population associated with the 2018 Camp Fire and other factors. See Section 2.4.2 for information on the Chico WPCP and associated NPDES permit.

3.10.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on hydrology and water quality. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.10.2.1 Federal

Clean Water Act

The Federal Water Pollution Control Act of 1948 was the first major United States law to address water pollution. Amended in 1972, the law became commonly known as the CWA (33 USC Section 1251). The CWA established the structure for regulating discharge of pollutants into waters of the United States and regulating quality standards for surface waters.

CWA Section 404 (33 USC Section 1344) enables regulation of the discharge of dredged or fill material into waters of the United States, including wetlands. To comply with CWA Section 404, a permittee must document the measures taken to avoid and minimize impacts on waters of the United States and provide compensatory mitigation for any unavoidable impacts.

Under CWA Section 401 (33 USC Section 1341), federal agencies are not authorized to issue a permit or license for any activity that may result in discharges to waters of the United States, unless a state or tribe where the discharge originates either grants, waives or denies CWA Section 401 certification. Decisions made by states or tribes are based on the proposed project's compliance with USEPA water quality standards as well as applicable effluent limitations guidelines, new source performance standards, toxic pollutant restrictions, and any other appropriate requirements of state or tribal law. In California, the SWRCB is the primary regulatory authority for CWA Section 401 requirements.

The Proposed Project will be subject to surface water quality and wastewater standards under the CWA.

National Pollutant Discharge Elimination System

The NPDES permit was established in the CWA to regulate municipal and industrial discharges to surface waters of the US. The ultimate objective of the CWA is zero pollutant discharge, but it recognizes the need for a system to regulate non-zero pollutant discharges until the zero-pollutant objective is feasible. CWA Section 402 established NPDES for this purpose. The NPDES regulates all pollutant discharges, particularly point source discharges, to the waters of the US.

The Proposed Project will be required to obtain a NPDES permit for discharges during construction. During operations, the Town's sewer system would fall under the City's existing NPDES permit (Section 2.4.2 Chico Water Pollution Control Plant).

Construction General Permit

The CGP (NPDES No. CAS000002, SWRCB Order No. 2012-0006-DWQ) authorizes the discharge of stormwater (and certain unauthorized non-stormwater discharges) from construction sites that disturb 1 acre or more of land, and from smaller sites that are part of a larger, common plan of development. For all projects subject to the CGP, the applicant is required to hire a qualified developer to develop and implement an effective SWPPP. All project registration documents, including the SWPPP, are required to be uploaded into the SWRCB's online Stormwater Multiple Application and Report Tracking System at least 30 days prior to construction.

The Proposed Project will be required to obtain a CGP and implement a SWPPP during construction.

Section 14 of the Rivers and Harbors Appropriation Act of 1899, Section 408

Under Section 408 (33 USC Section 408), any use or alteration of a Civil Works project is subject to the approval of USACE. This requirement was established in Section 14 of the Rivers and Harbors Act of 1899. Section 408 provides that USACE may grant permission for another party to alter a Civil Works project upon a determination that the alteration proposed will not be injurious to the public interest and will not impair the usefulness of the Civil Works project.

The Proposed Project will be subject to compliance with Section 408.

3.10.2.2 State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1966 (California Water Code Section 13000 et seq.; CCR Title 23, Chapter 3, Subchapter 15) is the primary state regulation that addresses water quality. The requirements of the act are implemented by the SWRCB at the state level and the regional water boards within the nine regions designated. The regional water boards carry out planning, permitting, and enforcement activities related to water quality in California. The regional water boards are responsible for controlling discharges to surface waters of the state by issuing waste discharge requirements or conditional waivers to waste discharge requirements. Waste discharge requirements are required by the regional water boards for activities that may affect water quality.

The Proposed Project will be subject to waste discharge and water quality standards under the Porter-Cologne Water Quality Control Act.

Clean Water Act Section 401 Water Quality Certification

A CWA Section 401 water quality certification is required for activities that require CWA Section 404 permits issued by USACE. As mentioned above, the SWRCB has primary regulatory authority for CWA Section 401 requirements for protecting water resources. Enforcement of these requirements is also handled by the nine regional water boards depending upon location of the potential impacts. The RWQCB will be responsible for CWA Section 401 for this project.

The Proposed Project will be subject to Section 401 for protecting water resources.

Delegated Permit Authority

California has been delegated permit authority for the NPDES permit program, including storm water permits for all areas except tribal lands. Issuance of CWA Section 404 permits remains the

responsibility of USACE; however, the state actively uses its CWA Section 401 certification authority to safeguard that CWA Section 404 permits will comply with state water quality standards.

The Proposed Project will be under the authority of the State of California for Section 401 certification and the NPDES permit program.

State Definition of Covered Waters

Under California state law, waters of the state refer to "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code Section 13050). Therefore, water quality laws apply to both surface water and groundwater. After the United States Supreme Court decision in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, the Office of Chief Counsel of the State Water Resources Control Board released a legal memorandum confirming the state's jurisdiction over isolated wetlands. In general, the SWRCB regulates discharges to isolated waters in much the same way as they do for waters of the United States, but the regulation is via Porter-Cologne Water Quality Control Act rather than the CWA.

The Proposed Project will be subject to laws regulating isolated waters and waters of the United States.

Central Valley Flood Protection Board

The Central Valley Flood Protection Board exercises regulatory authority within its jurisdiction to maintain the integrity of the existing flood control system and designated floodways by issuing permits for encroachments. The jurisdiction of the Central Valley Flood Protection Board includes the Central Valley, including all tributaries and distributaries of the Sacramento River, the San Joaquin River, and designated floodways (23 CCR Section 2). Projects that encroach in a designated floodway or regulated stream, or within 10 feet of the toe of a state-federal flood control structure (levee), require an encroachment permit and the submission of an associated application, including an environmental assessment questionnaire. A project must demonstrate that it will not reduce the channel flow capacity and that it will comply with channel and levee safety requirements. In cooperation with USACE, the Central Valley Flood Protection Board enforces standards for the construction, maintenance, and protection of adopted flood control plans that will protect public lands from floods.

The Central Valley Flood Protection Board has jurisdiction over waterbodies in the Project Area and will be subject to its standards.

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB adjudicates water rights, sets water pollution control policy, issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, Total Maximum Daily Loads, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

Since the Town's sewer system would fall under the City's NPDES permit (Section 2.4.2 Chico Water Pollution Control Plant), the Proposed Project is within the jurisdiction of the SWRCB and will be subject to its standards and permitting requirements.

3.10.2.3 Regional and Local

Water Quality Control Plan (Basin Plan)

The proposed Project is under the jurisdiction of the RWQCB. The RWQCB implements the *Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region* (RWQCB 2018) to regulate surface and groundwater quality in the region. The Basin Plan covers the entire Sacramento and San Joaquin River Basins. The Basin Plan lists beneficial uses and water quality objectives to protect those uses. The Proposed Project is in the Sacramento River Basin and will follow the requirements laid out in that portion of the Basin Plan.

The Proposed Project will be subject to the requirements of the RWQCB and the Basin Plan.

Municipal Separate Storm Sewer Systems

CWA Section 402(p) requires the issuance of NPDES permits for five categories of stormwater dischargers, including MS4s. Pursuant to CWA Section 402, NPDES permits are required and issued for discharges from an MS4 serving a population of 100,000 or more for the Phase I MS4 Municipal Program and serving a population of 10,000 or more for the Phase II Small MS4 Program. As discussed, Butte County operates under Small MS4 stormwater permit.

The Proposed Project is located in an area that operated under a Small MS4 stormwater permit.

Town of Paradise General Plan

The Proposed Project will be subject to the policies, goals and actions of the *Town of Paradise General Plan*. The *General Plan* (Town of Paradise and Quad Consultants 2008) includes the following policies related to hydrology and water quality that are relevant to the Proposed Project:

- **Policy SP-17:** Development projects shall be designed to minimize soil erosion and shall be required to comply with all Town of Paradise adopted soil erosion standards maintained by the Town Engineering Office.
- **Policy OCEP-23:** Stream courses identified and designated as significantly important shall be carefully protected from the impacts of land use development, both within and outside the Town limits.
- **Policy OCEP-25:** Natural riparian vegetation along creeks will be protected.

Town of Paradise Stormwater Ordinance (Ord. No. 548, Section 1, Adopted September 9, 2014)

The Town of Paradise has adopted an ordinance relating to Stormwater Quality Management for the purpose of protecting and promoting the health, safety, and general welfare of the citizens of the Town. The purpose of the ordinance is also to protect and enhance the water quality, beneficial uses, habitats, and ecosystems in receiving waters by reducing pollution and pollutant loads discharged in urban runoff from areas within the Town's jurisdiction, and by prohibiting non-stormwater discharges to municipal storm drain systems.

The Proposed Project will be subject to regulations in the Town of Paradise Stormwater Ordinance.

Butte County General Plan 2030

The Proposed Project will be subject to the policies, goals and actions of the *Butte County General Plan 2030*. The *Butte County General Plan 2030* (Butte County 2012) includes the following policies related to hydrology and water quality that are relevant to the Proposed Project:

- **Policy W-P1.4**: Where appropriate, new development shall be Low Impact Development (LID) that minimizes impervious area, minimizes runoff and pollution and incorporates best management practices.
- **Policy W-P1.8**: The County supports conversion from septic systems to public sewer service, where feasible.
- **Policy W-P2.1**: The County supports solutions to ensure the sustainability of community water supplies.
- **Policy W-P2.2**: The County may continue the Four-County Memorandum of Understanding (MOU) with Colusa, Glenn, Tehama and Sutter Counties, and may support the development of the Northern Sacramento Valley Integrated Regional Water Management Plan.
- **Policy W-P2.6**: The County supports water development projects that are needed to supply local demands.
- **Policy W-P2.7**: The Butte County Water Commission and the Department of Water Resource Conservation shall continue to be utilized as important partners in the water resource planning process.
- **Policy W-P3.3**: The County shall protect groundwater recharge and groundwater quality when considering new development projects.
- **Policy W-P4.4**: Opportunities to recover and utilize wastewater for beneficial purposes shall be promoted and encouraged.
- **Policy W-P4.6**: New development projects shall adopt best management practices for water use efficiency and demonstrate specific water conservation measures.
- **Policy W-P4.7**: County facilities shall adopt water conservation measures and when appropriate retrofit existing facilities to improve water conservation.
- **Policy W-P5.2**: New development projects shall identify and adequately mitigate their water quality impacts from stormwater runoff.
- **Policy W-P5.4**: Temporary facilities shall be installed as necessary during construction activities to adequately treat stormwater runoff from construction sites.

Butte County Groundwater Conservation Ordinance (Chapter 33)

In November 1996, the voters in Butte County approved an ordinance to protect the groundwater resources in Butte County. One of the stated purposes of the ordinance was that the groundwater underlying Butte County is a significant water resource which must be reasonably and beneficially used and conserved for the benefit of the overlying land by avoiding extractions which harm the Butte Basin aquifer, causing exceedance of the safe yield or a condition of overdraft. The ordinance is now codified as Chapter 33 of the Butte County Code relating to groundwater conservation. The Proposed Project would not extract or use groundwater resources during construction and operations and would not conflict with the Butte County Groundwater Conservation Ordinance.

The Proposed Project will be subject to regulations in the Butte County Groundwater Conservation Ordinance.

Butte County Integrated Water Resources Plan

The purpose of the *Butte County Integrated Water Resources Plan* (CDM 2005) is to document the stakeholder-centered process used by Butte County to develop water resources policy recommendations for consideration by the Butte County Board of Supervisors. This plan is part of the Butte County's proactive Integrated Water Resources Program.

The Proposed Project will be subject to standards in the Butte County Integrated Water Resources Plan.

Four-County Memorandum of Understanding

The counties of Butte, Colusa, Glenn, and Tehama share common surface water and groundwater resources. The purpose of the Four-County Memorandum of Understanding is to establish the mutual understandings of the four counties with respect to their voluntary joint efforts toward regional coordination, collaboration and communication. Treated wastewater from the Proposed Project would be discharged into the Sacramento River in accordance with the City's NPDES permitting requirements. The Proposed Project will also include a Frac-out Plan, which will outline all standard BMPs, monitoring, and contingency procedures in the event of frac-out during ground disturbing activities to protect groundwater resources. Therefore, the Proposed Project will be subject to the standards of and will not conflict with the Four-County Memorandum of Understanding.

Chico 2030 General Plan

The Proposed Project will be subject to the policies, goals and actions of the *Chico 2030 General Plan*. The *Chico 2030 General Plan* (City of Chico 2017) includes the following policies related to hydrology and water quality that are relevant to the Proposed Project:

- **Policy OS-3.1, Surface Water Resources**: Protect and improve the quality of surface water.
- **Policy OS-3.2, Protect Groundwater**: Protect groundwater and aquifer recharge areas to maintain groundwater supply and quality.
- **Policy OS-3.3, Water Conservation and Reclamation**: Encourage water conservation and the reuse of water.

Chico Urban Area Nitrate Compliance Plan

The *Chico Urban Area Nitrate Compliance Plan* (Butte County 2000) was prepared in response to the contamination of groundwater in the Chico Urban Area by nitrate, a form of nitrogen, and the subsequent issuance of Prohibition Order No. 90-126 adopted by the RWQCB on April 27, 1990. The discharge from individual septic systems was the primary source of groundwater nitrate contamination that exceeded drinking water standards set by the USEPA and the SWRCB. Nitrate levels that exceed the standards pose a threat to public health and are subject to regulation. The *Chico Urban Area Nitrate Compliance Plan* supersedes the Nitrate Action Plan, which was adopted by the Butte County Board of Supervisors and Chico City Council in 1985.

The Proposed Project will support the initiates of the *Chico Urban Area Nitrate Compliance Plan* by implementing an improved sewer collection system.

3.10.3 Method of Analysis

This section describes the methods used to analyze hydrology and water quality within the study area.

3.10.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on hydrology and water quality if it would:

- **Impact HYD-1**: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality
- **Impact HYD-2**: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin
- **Impact HYD-3**: 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:

  (a) Result in substantial erosion or siltation on or off-site
  (b) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site
  (c) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff
  (d) Impede or redirect flood flows

- **Impact HYD-4**: In flood hazard zones, risk release of pollutants due to Project inundation
- **Impact HYD-5**: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

3.10.3.2 Approach to Analysis

Construction, Operation and Maintenance

A desktop analysis was completed to collect and analyze data related to hydrology and water quality in the study area. Key sources of information and plans include the following:

- *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008)
- *Chico 2030 General Plan* (City of Chico 2017)
- *Butte County General Plan 2030* (Butte County 2012)
- Butte County Public Works Information interactive GIS map (Butte County 2021d)
- FEMA Flood Insurance Rate Maps (FEMA 2011)
- DOC California tsunami maps (DOC 2019b)

This analysis of environmental effects focuses on foreseeable changes to the existing hydrologic conditions in the context of effects criteria listed in Section 3.10.3.1, CEQA Significance Criteria. The analysis considers each of the major Project components, as appropriate, in the context of construction, (specifically as to off-site staging areas), operation, and maintenance.

This analysis of water quality effects considers the potential for the Proposed Project to affect local and regional quality. In evaluating the potential for adverse water quality effects, this analysis considers existing data, reports, or studies on surface water quality that characterize baseline surface water quality in the study area.

Groundwater impacts were assessed based on whether construction, operation, and maintenance of the Proposed Project would result in permanent decreases in the groundwater table or water levels in an aquifer underlying the study area. Hydrology impacts are considered the permanent addition of new impervious surfaces, alterations in drainage patters, alteration of a stream or river, and increased runoff or erosion and siltation as a result of construction, operation, and maintenance of the Proposed Project.

Flood hazard, tsunami, and seiche were also considered in the study area per CEQA guidelines. A tsunami is a catastrophic ocean wave, usually caused by a submarine earthquake, an underwater or coastal landslide, or a volcanic eruption. A seiche is a temporary disturbance or oscillation in the water level of a partially enclosed body of water, especially one caused by changes in atmospheric pressure. Tsunami hazards were assessed using the DOC tsunami map (2019), and the likelihood of the occurrence of a seiche was determined based on the Proposed Project's topography and proximity to oceans and other large bodies of water. Neither tsunami or seiches are issues in this area and are not evaluated further; however, flood risks were determined to be worthy of evaluation in this area using FEMA floodplain data and USACE's National Levee Database.

3.10.4 Impact Analysis

This section describes the potential environmental effects on hydrology and water quality as a result of implementation of the Proposed Project. Excavation and ground disturbing activities because of construction activities, particularly near waterbodies, have the potential to impact hydrology and water quality in the study area. Inadvertent fuel or chemical spills associated with the operation of construction vehicles and equipment during construction could also impact water quality in the study area.

Operation and maintenance activities associated with the newly proposed Core and Extended Collection Systems and Export Pipeline would employ typical municipal wastewater collection systems methodology, as described in Section 2.7 Proposed Operation and Maintenance. These activities would minimize the potential for sanitary backups, pump station outages, and sewer main breaks.

3.10.4.1 Impact HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (Less than Significant Impact with Mitigation Incorporated)

Construction

The lack of a viable sewer infrastructure in the study area has negatively affected groundwater and surface water quality through increases in nutrients and contaminants from failing septic tanks. As discussed in Section 3.10.1, Environmental Setting, the primary issues related to water quality in Chico are urban stormwater runoff, groundwater contamination from septic tanks, infiltration of urban stormwater runoff, and pollutants from dry cleaning and industrial uses. In addition, there are high

levels of nitrates in portions of the groundwater under Chico that resulted from the widespread use of septic tanks within the urban area.

Likewise, historical use of high-density septic systems and leach fields in Paradise have resulted in surface and groundwater contamination. According to the PID *Annual Consumer Confidence Report*, contaminants that may be present in source water (rivers, lakes, streams, ponds, reservoirs, springs, and groundwater wells) as a result of historical septic system usage and wastewater discharges include microbial contaminants, such as viruses and bacteria; inorganic contaminants, such as salts and metals; and organic chemical contaminants, including synthetic and volatile organic chemicals (PID 2019). High levels of fecal coliform and septic system effluent have also degraded water quality because of septic system usage in the study area (Montgomery 1983). The Proposed Project would improve groundwater and surface water quality in the study area by developing a wastewater collection, treatment, and dispersal solution that fits the needs of the Town.

Depth to groundwater in the study area varies significantly and is not monitored under the Core and Extended Collection Systems. Groundwater underneath the Export Pipeline System can vary anywhere from 5 to 7 feet in some areas of Chico and between 45 and 121 feet near Butte Creek (DWR 2004; Peterson 2019). Collection pipes would be trenched using mechanical trench and backfill methods anywhere from 3 feet to 15 feet below ground surface. The Export Pipeline System would be constructed using open cut methods up to 10 feet deep, and trenchless crossings (microtunneling or HDD). As discussed in Section 2.5.2 Export Pipeline System, trenchless crossings would occur at least 20 feet below the creek bed and would involve constructing pits at either end of the crossing. See Section 2.5.2.2 Construction Methods for more information on trenchless crossings.

Construction activities described above near the waterbodies located along and intersecting the study area, including Butte Creek, Little Butte Creek, Little Chico Creek, and Comanche Creek, would have the potential to impact water quality through sediment discharge and potential frac-out during trenching. Frac-out occurs when drilling fluid penetrates fractured bedrock or seeps into the environment that surrounds the bedrock. There is also a possibility that groundwater would be encountered during excavations and construction associated with the Core Collection System, the Export Pipeline System, and the Extended Collection System; however, dewatering would likely not be necessary. Operation of construction vehicles and equipment in the vicinity of waterbodies could also result in water quality impacts through the inadvertent release of fuels or chemicals in the event of an accident.

Launching and receiving pits used for trenchless crossings would be set back to avoid riparian vegetation, which would also minimize affects to surface water quality. The Town will require that the contractor comply with the SWRCB's CGP, which requires the preparation and implementation of a SWPPP, prior to construction and ground disturbing activities. The construction SWPPP will require BMPs to minimize potential short-term increases in sediment transport caused by construction, including erosion control requirements and stormwater management. The SWPPP must also contain a visual monitoring program for "nonvisible" pollutants to be implemented if there is a failure of BMPs, and a sediment monitoring plan if the site discharges directly to a waterbody listed on the CWA 303(d) list for sediment.

In addition to the CGP, the Project will require regulatory permits from USACE (Sections 404 and 408), the Regional Board (Section 401), and the CDFW (Streambed Alteration Agreement). The Project will also require a Small MS4 Permit. These permits are briefly described below:

- Section 404 enables regulation of the discharge of dredged or fill material into waters of the United States, including wetlands. To comply with CWA Section 404, a permittee must document the measures taken to avoid and minimize impacts on waters of the United States and provide compensatory mitigation for any unavoidable impacts.
- Section 408 provides that USACE may grant permission for another party to alter a Civil Works project upon a determination that the alteration proposed will not be injurious to the public interest and will not impair the usefulness of the Civil Works project.
- Under CWA Section 401, federal agencies are not authorized to issue a permit or license for any activity that may result in discharges to waters of the United States, unless a state or tribe where the discharge originates either grants, waives or denies CWA Section 401 certification.
- CDFW requires a Lake and Streambed Alteration Agreement when a project activity may substantially adversely affect fish and wildlife.
- The MS4 permit is designed to reduce the amount of sediment and other pollutants entering state waters from stormwater systems.

The Proposed Project will comply with applicable permitting requirements during construction. However, there is still potential for adverse water quality impacts during construction. If implementation of the project were to cause adverse water quality impacts, this would result in a significant impact.

Mitigation. To minimize potentially significant impacts on water quality associated with construction of the Proposed Project to a less than significant level, mitigation measures **MM-HAZ-1, MM-HYD-1, MM-HYD-2,** and **MM-BIO-15** will be implemented.

MM-HAZ-1: Vehicle and Equipment Access and Fueling (see Section 0 Hazards and Hazardous Materials for description)

MM-HYD-1: Stormwater Management and Treatment Plan. As special conditions to the contractor construction documentation, the Town will require that the contractor prepare and implement a Proposed Project-specific Stormwater Management and Treatment Plan that addresses construction-related activities. The plan will include all of the SWPPP and Small MS4 permits, as well as the Construction BMPs included in MM-HYD-2 below, and will be enforceable as a contract provision.

MM-HYD-2: Construction Best Management Practices: Prior to initiation of ground- disturbing activities within 250 feet of vernal pools or 100 feet of other aquatic resources, construction BMPs will be employed on-site to prevent degradation to on-site and off-site aquatic resources. Methods will include the use of appropriate measures to intercept and capture sediment prior to entering aquatic resources, as well as erosion control measures along the perimeter of all work areas to prevent the displacement of fill material. All BMPs will be in place prior to initiation of any construction activities and will remain until construction activities are completed. All erosion control methods will be maintained until all on-site soils are stabilized.)

MM-BIO-15: Frac-Out-Plan (see Section 0 Biological Resources for description)

Significance after Mitigation. With implementation of **MM-HAZ-1**, **MM-HYD-1**, **MM-HYD-2**, and **MM-BIO-15**, impacts on water quality would be reduced to a less than significant level.

Operation and Maintenance

Compliance with standard federal, state, and local regulations and policies related to water quality would also be required during operation of the Proposed Project. Operation and maintenance activities would employ typical municipal wastewater collection systems methodology, as described in Section 2.7, Proposed Operation and Maintenance. These activities would minimize the potential for sanitary backups, pump station outages, and sewer main breaks. As discussed in Section 2.8 Proposed Operation and Maintenance, while the Core Collection System, Extended Collection System, and Export Pipeline System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Each system will have in place pressure gauges to help detect the loss of pressure resulting from a break, which in turn will notify the Town Wastewater Department that such a break has occurred. The Town Wastewater Department will develop an Operations Response Plan as part of its overall operations and maintenance processes that will provide direction for handling such an occurrence. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. The Town Wastewater Department will also have on-hand the equipment and spare parts necessary to rapidly implement a repair.

The Chico WPCP is licensed to treat 12 mgd of wastewater and is operating at 6.3 mgd (Chico WPCP monitoring data, Central Valley Regional Water Quality Control Board 2021). The Proposed Project would add a maximum of an additional 0.464 mgd of wastewater to the system during operations, which would then be discharged into the Sacramento River. Consistent with existing conditions, the treated wastewater from the Chico WPCP would continue to be discharged to the Sacramento River through a submerged outfall diffuser and is regulated in accordance with NPDES Permit No. CA0079081 (Order No. R5-2016-0023). This incremental increase in discharge as a result of the Proposed Project is within the permitted allowance and would not violate water quality standards or waste discharge requirements.

The Proposed Project will comply with water quality standards and would not conflict with waste discharge requirements. The Proposed Project would not degrade surface or ground water quality but would beneficially impact water quality once operational. There would be no impact during operations and maintenance.

Mitigation. *No mitigation required.*

3.10.4.2 Impact HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin (Less than Significant Impact)

Construction

The Proposed Project is in the Sacramento Valley Groundwater Basin. The Project would not involve the use of groundwater for construction of the Core Collection System, Export Pipeline System, or Extended Collection System, which could otherwise carry potential for interference with current groundwater recharge, possible depletion of groundwater supplies, or interference with wells. However,

there is potential that groundwater would be encountered during construction of the Core Collection System, Export Pipeline System, and Extended Collection System. Depth to groundwater in the study area varies significantly and is not monitored under the Core Collection System and Extended Collection System. Groundwater underneath the Export Pipeline System can vary anywhere from 5 to 7 feet in some areas of Chico and between 45 and 121 feet near Butte Creek (DWR 2004; Peterson 2019).

The Core Collection System pipelines would be installed anywhere from 3 to 15 feet below ground surface. Trenchless crossings for the Export Pipeline System would be required for installing the pipe beneath the feature (creek, highway, or railroad). Trenchless crossings via microtunneling methods under SR 99 and the Union Pacific Railroad would occur at depths of 30 feet below the roadway and rail centerlines, respectively. Trenchless crossings via HDD methods under Butte Creek, Comanche Creek, and Little Chico Creek would occur between 20 to 30 feet below the creek bed. Water encountered during pit excavation for the trenchless crossings would be placed into a settling tank before being trucked to a nearby sewer main for discharge. Perched water and nuisance water encountered in trenches during open cut construction methods for installation of the Core Collection System and Extended Collection System would be collected via sump pump to a Baker Tank for settling and reused for truck dust control. Perched water and nuisance water could also discharge to surface water or infiltrate into the ground after sediment removal.

Any localized lowering of the groundwater table as a result of the construction methods described above would be anticipated to recover quickly and would not cause a net deficit in aquifer volume or a lowering of the groundwater table. Most of the proposed construction of the Core Collection System, Export Pipeline System, and Extended Collection System would occur within the existing ROW and conditions would be restored to current conditions once construction is complete. Therefore, the Proposed Project would not introduce impervious surfaces that would have the potential to impede groundwater recharge because the ROW or other area disturbed during construction would be restored and impacts would be less-than-significant during construction.

Operation and Maintenance

No groundwater would be required to operate or maintain the Proposed Project. Therefore, no impact would occur on groundwater supply and recharge during operations and maintenance.

Mitigation. *No mitigation required.*

3.10.4.3 Impact HYD-3: 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:

(a) Result in substantial erosion or siltation on or off-site (Less than Significant Impact with Mitigation Incorporated)

Construction

The Core Collection System, Export Pipeline System, and Extended Collection System would primarily occur within the existing ROW on previously disturbed areas and would only rise to the surface for parcel connections, at pump station locations within the Core and Extended Collection System areas,

and at the Chico WPCP Connection. All surfaces would be restored to their original conditions and would not introduce new impervious surfaces.

Temporary water quality impacts could result from sediment discharge from areas of disturbance and construction near water resources. Construction work would not take place inside of any waterbodies and the Project would not result in the alteration of a stream or river. The Proposed Project would involve trenchless crossings underneath Butte Creek, Comanche Creek, and Little Chico Creek via HDD methods. The crossings would be required to have a minimum depth of 20 feet below the waterbody with a launching and receiving pit on either end of the crossing. As discussed in Section 2.5.2 Export Pipeline System, and shown in Figure 2-12 Typical HDD Installation, there would be an approximate 10- by 5- foot launching and receiving pit and additional protected space on either end of the waterbody.

Portions of the Core Collection System and the Extended Collection System would be constructed near waterbodies. Prior to construction and ground disturbing activities, the Town will require that the contractor comply with SWRCB's CGP, which requires the preparation and implementation of a SWPPP. The construction SWPPP will require BMPs to minimize potential short-term increases in sediment transport caused by construction, including erosion control requirements and stormwater management. In addition to the CGP, the Project will also require a Small MS4 Permit and will comply with mandates set forth in these permits. Potential still exists for construction activities to result in erosion or siltation. Therefore, impacts would be significant.

Mitigation. To minimize potentially significant impacts on erosion or siltation associated with construction of the Proposed Project to a less than significant level, mitigation measure **MM-HYD-1** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan. (see Impact HYD-1 for description)

Significance after Mitigation. With implementation of **MM-HYD-1**, impacts on erosion and siltation would be reduced to a less than significant level.

Operation and Maintenance

Post construction, no changes are proposed to the current operational discharge of treated water to the Sacramento River that would potentially alter the drainage patterns or course of the waterway or create additional erosion or siltation. Maintenance activities would not require in-water work and would therefore not alter the course of a stream or river or create erosion and siltation. Therefore, impacts during operation and maintenance would be less than significant.

Mitigation. No mitigation required.

(b) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site (Less than Significant Impact with Mitigation Incorporated)

Construction

Construction of the Proposed Project, including the Core Collection System, Export Pipeline System, and Extended Collection System would primarily occur within the existing public ROW and below

ground and would only rise to the surface for parcel connections, at pump station locations within the Core and Extended Collection System areas, and at the Chico WPCP Connection. Disturbed areas would be backfilled, and surfaces would be restored to pre-construction conditions once construction is complete. Additional impervious surfaces that could increase surface water runoff and create flooding on- or off-site are not proposed. As a result, after construction, runoff and flooding conditions would be similar to current conditions. There would be no additional runoff into a FEMA floodplain as a result of the Proposed Project. As discussed, the Town will require that the contractor comply with SWRCB's CGP, which requires the preparation and implementation of a SWPPP. However, the potential for on- or off-site flooding still exists during construction and impacts would be considered significant.

Mitigation. To minimize potentially significant impacts on flooding associated with construction of the Proposed Project to a less than significant level, mitigation measures **MM-HYD-1** and **MM-HYD-3** will be implemented.

MM-HYD-3: Flood Protection Plan. Prior to construction, the Town will require that the contractor prepare and implement a Flood Protection Plan for the Proposed Project. The Flood Protection Plan must include evacuation routes in the event of a flood, and will include the implementation of temporary flood barriers, such as sandbags, berms or portable fence systems, to be set up around the perimeter of the construction work area in high flood hazard areas, as discussed in Section 3.10.1.5, Tsunami, Seiche and Flood Hazards.

Significance after Mitigation. With implementation of **MM-HYD-1** and **MM-HYD-3**, impacts on flooding would be reduced to a less than significant level.

Operation and Maintenance

Once operational, it is possible that the Proposed Project could indirectly foster or accommodate regrowth in Paradise, leading to the construction of additional impervious surfaces (see Section 4.4 Growth Inducing Impacts). However, new developments would be subject to approval by the Town of Paradise and compliance with applicable design standards, codes and regulations concerning surface runoff and drainage. Maintenance activities would not require in-water work and would therefore not alter the course of a stream or river or create flooding. Therefore, impacts during operations, and maintenance would be less than significant.

Mitigation. No mitigation required.

(c) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff (Less than Significant Impact with Mitigation Incorporated)

Construction

As discussed in Impact HYD-3 (b) above, the Proposed Project would not increase the amount of runoff in the study area. The Proposed Project would not introduce new impervious surfaces because the ROW or other area disturbed during construction would be restored. During construction of the Core Collection System, Export Pipeline System, and Extended Collection System, runoff will be controlled through the implementation of a Construction SWPPP.

During construction and ground disturbing activities associated with installation of the Core Collection System, Export Pipeline System, and Extended Collection System, construction flows to existing drainage systems may occur, as well as potential sources of polluted runoff. BMPs and compliance with mandates set forth in the CGP and Small MS4 Permit would help prevent runoff from entering nearby existing drainage systems. However, the potential for polluted runoff still exists during construction. Impacts would therefore be significant. As discussed, implementation of mitigation measures **MM-HYD-1** and **MM-HYD-3** will reduce potentially significant impacts.

Significance after Mitigation. With implementation of **MM-HYD-1** and **MM-HYD-3**, impacts on polluted runoff would be reduced to a less than significant level.

Operation and Maintenance

After construction is complete, stormwater runoff conditions would be similar to pre-construction conditions given that most work would have occurred below ground and disturbed surfaces would be backfilled and restored. During operation of the Proposed Project, the treated wastewater from the Chico WPCP would continue to be discharged to the Sacramento River through a submerged outfall diffuser and is regulated in accordance with NPDES Permit No. CA0079081 (Order No. R5-2016-0023). Maintenance activities would not require in-water work and would therefore not alter the course of a stream or river or create polluted runoff. Impacts from runoff and polluted runoff during operation and maintenance would be less than significant.

Mitigation. No mitigation required.

(d) Impede or redirect flood flows (Less than Significant Impact)

Construction

No impacts would occur during operations because treated wastewater would continue to be discharged to the Sacramento River. The Core Collection System, Export Pipeline System, and Extended Collection System would require work near waterbodies in some areas, as shown in Figure 2-1, Project Location. However, construction would not occur within any waterbodies.

Construction of the Export Pipeline System would involve trenchless crossings below Butte Creek, Comanche Creek, and Little Chico Creek at depths of at least 20 feet below the creek bed using HDD methods. As discussed in Section 3.10.1 Environmental Setting, levees also traverse the study area along Comanche Creek, Little Chico Creek, and Butte Creek Diversion Channel. Levees located along Comanche Creek and Little Chico Creek are locally constructed, operated and maintained (USACE 2016). Butte Creek Diversion Channel (National Levee ID 5205000592) is a federal levee that traverses the study area (USACE 2016). Launching and receiving pits would be set back sufficiently far from the levees to avoid potential impacts from the pits. The tunnels themselves would pass under the levees, but at a sufficient depth to avoid impacting them. Waters within Butte Creek, Comanche Creek and Little Chico Creek would therefore not be redirected or impeded. Additionally, with compliance with applicable permits, impacts from impeding or redirecting flood flows would be less than significant.

Mitigation. No mitigation required.

Operation and Maintenance

No impacts would occur during operations because treated wastewater would continue to be discharged to the Sacramento River. Maintenance activities would not require in-water work and would therefore not alter the course of a stream or river or impede or redirect flows. Impacts during operation and maintenance would be less than significant.

Mitigation. No mitigation required.

3.10.4.4 Impact HYD-4: In flood hazard zones, risk release of pollutants due to Project inundation (Less than Significant Impact with Mitigation Incorporated)

Construction

Most of the study area is in a minimal flood hazard zone. However, in some areas there is a 0.2 percent or 1 percent chance that the study area would flood in any given year (FEMA 2020, Butte County 2021d). Levees also traverse the study area along Comanche Creek, Little Chico Creek, and Butte Creek Diversion Channel. Levees located along Comanche Creek and Little Chico Creek are locally constructed, operated and maintained (USACE 2016). Butte Creek Diversion Channel (National Levee ID 5205000592) is a federal levee that traverses the study area (USACE 2016). Therefore, the Proposed Project will be subject to USACE Section 408 permitting requirements. The Proposed Project will comply with Section 408 permitting requirements and will be designed in accordance with USACE standards. As discussed in Section 3.10.2, Regulatory Framework, Section 408 provides that USACE may grant permission for another party to alter a Civil Works project upon a determination that the alteration proposed will not be injurious to the public interest and will not impair the usefulness of the Civil Works project. Impacts on the Butte Creek Diversion Channel and other levees in the study area would be avoided because construction of the Export Pipeline System would involve a trenchless crossing at Butte Creek, Comanche Creek and Little Chico Creek at least 20 feet below the waterbody, and no physical modifications to the waterbody or the levee are proposed. Further, no other Project components would impact Butte, Comanche, and Little Chico Creeks. However, because there is a possibility that the study area could experience flooding, this impact would be significant. As discussed, implementation of **MM-HYD-3** would reduce potentially significant impacts.

Significance after Mitigation. With implementation of **MM-HYD-3**, impacts from the release of pollutants due to Proposed Project inundation would be reduced to a less than significant level.

Operation and Maintenance

Treated water would continue to be discharged to the Sacramento River in compliance with flow and water quality standards laid out in the NPDES Permit No. CA0079081 (Order No. R5-2016-0023). Therefore, impacts during operation and maintenance would be considered less than significant.

Mitigation. No mitigation required.

3.10.4.5 Impact HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan (Less than Significant Impact with Mitigation Incorporated)

Construction

The current wastewater system in Paradise is characteristic of a high percentage of failed or failing septic systems, which can create a public health risk due to the potential for direct or indirect public contact with sewage. The lack of a viable sewer infrastructure also poses an environmental threat to groundwater and surface water quality. As discussed under Impact HYD-1, the Proposed Project would improve groundwater and surface water quality and increase water supplies in the study area by developing a wastewater collection, treatment, and dispersal solution that fits the needs of the Town. As noted in the California Water Boards' *Strategic Plan Summary: 2008–2012* (SWRCB 2008), improving groundwater quality and increasing water supplies are two key objectives of the State of California. The Proposed Project will align with these state goals.

During construction, the Proposed Project will involve the preparation and compliance with a construction SWPPP. The Project will require regulatory permits from USACE (Section 404), the Regional Board (Section 401), CDFW (Streambed Alteration Agreement), CGP and Small MS4 Permit. With implementation of requirements within Section 404, 408, 401, the Streambed Alteration Agreement, CGP, MS4 Permit, and other standard water treatment BMPs, the Proposed Project will comply with applicable permitting requirements during construction.

Additionally, as discussed in Impact HYD-2, the Proposed Project would not include the use of groundwater. The Proposed Project would not introduce additional impervious surfaces that would have the potential to impede groundwater recharge, and no impact on a sustainable groundwater management plan or ordinance, such as the Butte County Groundwater Conservation Ordinance, would occur.

A Water Quality Control Plan for the Central Valley Region was revised in May 2018. The regulatory mechanism for the discharge of pollutants into the water is the NPDES permit program, which is designed to protect water quality by regulating point sources of pollutants (City of Chico 2017). The Proposed Project will comply with NPDES permitting. However, there is potential that water quality impacts could occur during construction. Impacts would therefore be significant.

Significance after Mitigation. With implementation of **MM-HYD-1**, impacts on a water quality control plan or sustainable groundwater management plan would be reduced to a less than significant level.

Operation and Maintenance

Compliance with standard federal, state, and local regulations and policies related to water quality would also occur during operation and maintenance of the Proposed Project. As discussed under Impact HYD-1, the Proposed Project would add an additional 0.464 mgd of wastewater to be treated at Chico WPCP and discharged to the Sacramento River through a submerged outfall diffuser regulated in accordance with NPDES Permit No. CA0079081 (Order No. R5-2016-0023). The additional 0.464 mgd of wastewater is within the permitted allowance. Based on these factors, there would be no impact on a water quality control plan or sustainable groundwater management plan during operation and maintenance.

Mitigation. No mitigation required.

3.10.5 Impacts Summary

Table 3.10-1 summarizes the hydrology and water quality impacts of the Proposed Project.

Table 3.10-1. Hydrology and Water Quality Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	S/M	MM-HAZ-1, MMBIO-1, MM-HYD-2, MM-HYD-1	LTS
Impact HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin	LTS	N/A	LTS
Impact HYD-3(a): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Result in substantial erosion or siltation on or off-site	S/M	MM-HYD-1	LTS
Impact HYD-3(b): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site	S/M	MM-HYD-1, MM-HYD-3	LTS
Impact HYD-3(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: Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff	S/M	MM-HYD-1, MM-HYD-3	LTS
Impact HYD-3(d): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Impede or redirect flood flows	LTS	N/A	LTS
Impact HYD-4: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation	S/M	MM-HYD-3	LTS
Impact HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	S/M	MM-HYD-1	LTS

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

3.10.6 References

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3.11 Land Use and Planning

This section describes the environmental setting and regulatory framework for land use and planning, and it identifies direct and indirect impacts of the Proposed Project during construction, operation, and maintenance. In particular, the land use analysis focuses on land use designation and planning characteristics for Butte County, Paradise, and Chico in the study area. For the purposes of this PEIR, the land use and planning study area is defined as the land use designations within the proposed Core and Extended Collection Systems and the Export Pipeline System. This includes land use designations of the Town and City as well as the land use designations for Butte County and the unincorporated areas of Butte County.

3.11.1 Environmental Setting

The Proposed Project would fall within the Town's land use jurisdiction, the City's land use jurisdiction, and the County's land use jurisdiction for unincorporated areas of Butte County. Land use designations do not apply to the County, Town or City ROWs, but are noted here as they would be adjacent to the Proposed Project located primarily in County, City and Town roads (ROW). In the Town, the Proposed Project study area would be adjacent to lands with Residential, Commercial, Industrial, Community Service, Public Institutional, and Recreational land use designations; installing components of the Core Collection System, such as pipelines or pump stations could require temporary or permanent easements on parcels with Residential, Commercial, Industrial, Community Service, and Public Institutional land use designations. Within unincorporated Butte County along the Skyway segment of the pipeline, the Proposed Project study area would remain within the County ROW and be adjacent to land with Agriculture, Residential, Recreation, Commercial, Planned Unit Development, Public, Resource Conservation, and Industrial land use designations. In the City, the Proposed Project study area would be adjacent to land with Open Space, Special Planning Area, Residential, Public, and Manufacturing land use designations. The small segment of the pipeline that crosses private property after leaving Skyway occurs in the City (Section 2.5.2.4 Easement or Encroachment Requirements; Figure 2-8) and would require temporary and permanent easements on two parcels with a land use designation of Regional Commercial. Land use designations within the study area are presented in Figure 3.11-1.

3.11.1.1 Town of Paradise General Plan

The current *Town of Paradise General Plan* was initially adopted by the Paradise Town Council on October 4, 1994. As noted in Section 2.2.1 Pre-fire History, since 1994, it continuously has been reviewed and amended for consistency and applicability. Amendments to the General Plan since 1994 can be found in Appendix B Town of Paradise 1994 General Plan Resolution and Amendments and are incorporated when referencing the *Town of Paradise General Plan* or *General Plan* in this document.

The *General Plan* serves as a long-term guide for orderly growth and development in Paradise. The General Plan also forms the foundation for zoning, subdivision regulation, and other planning decisions. The document is the third general plan adopted by the Town since its incorporation in 1979 and is organized into three separate volumes: Volume I – Policy Document, Volume II - Environmental Impact Report and Volume III – Environmental Setting. Volume I, the Policy Document, contains a

comprehensive assemblage of all mandatory general plan elements and an additional, non-mandatory Education and Social Services element.

The Housing Element has been periodically updated, with the most recent *Town of Paradise 2022–2030 Housing Element Update* (as submitted to the California Department of Housing and Community Development [HCD]) and adopted by Town Council on June 14, 2022 (Town of Paradise 2022a). In the Housing Element, the Town Council adopted an implementation measure to create a Sewer Service Overlay zone if and when the Proposed Project moves forward. This makes the Paradise Housing Element consistent with the Butte County Association of Governments' (BCAG) Regional Housing Needs Allocation (RHNA) and current State Housing Element law.

In order for the Housing Element to be adopted by the Town, which it was, the document was reviewed and conceptually approved by HCD, which regulates general plans in California, as well as specific elements of those plans (https://www.hcd.ca.gov/community-development/housing-element). Certification of the Housing Element by HCD, which included consideration of the full *General Plan*, is confirmation of the continued validity of the local government's *General Plan*. As of May 25, 2022, the Town Planning Director has also provided a review of the *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) and confirmed that all required elements are current (see all amendments to the *General Plan* since 1994 in Appendix B: Town of Paradise 1994 General Plan Resolution and Amendments). The Town of Paradise Planning Commission adopted Resolution No. 13-04 finding the *Town of Paradise 1994 General Plan* with updates "substantially complies with the statutory mandates under Government Code Section 65302" and recommended that the Town Council adopt the amendments to the Housing Element. (Appendix B Town of Paradise 1994 General Plan Resolution and Amendments). The Commission found the *Town of Paradise General Plan*, as updated, remains a valid document because of the slow growth and change of the town.

State legislation now requires the Safety Element be updated whenever the Housing Element is updated. Therefore, the Town's Safety Element was updated at the same time as the *2022-2030 Housing Element*. It is currently in the process of review by CalFire and then will be reviewed by the Department of Conservation. After these reviews, and before adoption, it will be available for public review and comment.

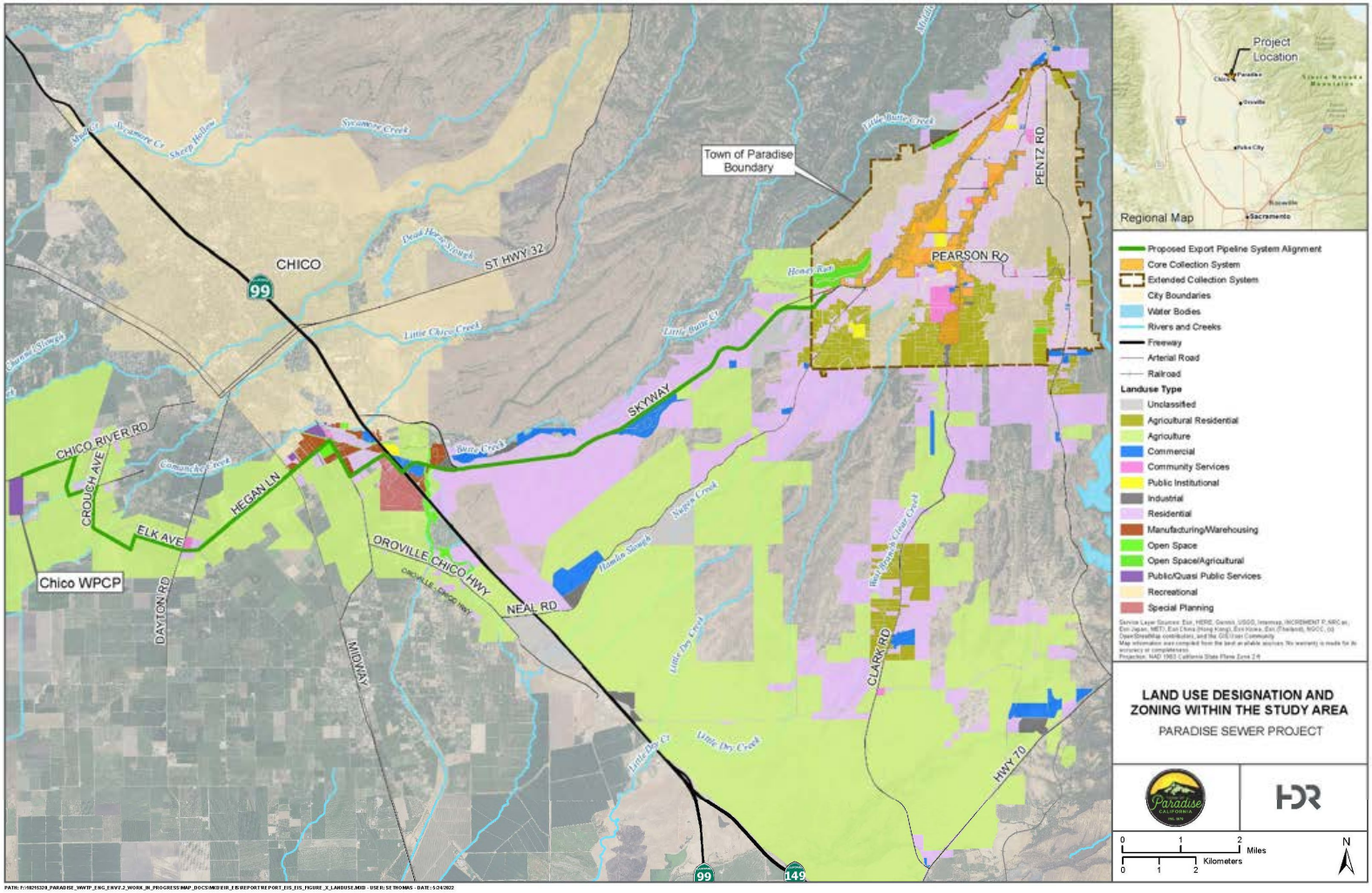

Figure 3.11-1. Land Use Designation and Zoning within the Study Area

3.11.1.2 Butte County General Plan

The *Butte County General Plan 2030* (Butte County 2012) was updated and adopted on October 26, 2010 (Butte County Resolution 10-152) and Amended on November 6, 2012 (Butte County Resolution 12-124). Butte County General Plan 2030 represents the conclusion of a multi-year effort begun in 2006 to comprehensively update the County's General Plan to provide areas for future growth and conservation until the year 2030. The Butte County General Plan 2030 Action Plan was updated by the Board of Supervisors in April 2018 for an additional 5-year planning period, ending in 2023 (Butte County Board of Supervisors Resolution No. 18-069). The Action Plan includes information related to the timing, primary and additional responsible agencies, and estimate costs for each action. The Action Plan also includes a Post General Plan 2030 Adoption Strategy to address future changes and corrections to the General Plan (https://www.buttecounty.net/dds/Planning/Butte-County-General-Plan).

3.11.1.3 Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) was adopted in April 2011and provides a comprehensive, long-range policy framework for the growth and preservation of Chico. The policies of the Plan apply to all properties within the City limits (https://chico.ca.us/general-plan-other-planning-documents).

3.11.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on land use and planning. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.11.2.1 Federal

No identified federal laws, regulations, orders, policies, or plans regarding land use and planning are relevant to the Proposed Project.

3.11.2.2 State

California State Planning and Zoning Law (California Government Code Sections 65000 to 66037)
The California State Planning and Zoning Law generally delegates local land use and development decisions to the respective city or county and provides laws that pertain to the land use regulations set out by the local government's general plan requirements, specific plans, and zoning.

3.11.2.3 Regional and Local

Town of Paradise "Dig Once" Policy
The Town of Paradise adopted the "Dig Once" Policy in 2019 to rebuild the Town's infrastructure after the 2018 Camp Fire. Per this policy, the Town strives to place all utility lines underground and direct utility agencies and companies to coordinate with each other when constructing and maintaining their infrastructure. This coordination would lessen the impact on the Town's roadways. Full relocation of utilities is estimated to take 5 years to complete, and work has already begun in Paradise.

Town of Paradise General Plan

The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) with updates includes the following goals, objectives, and policies related to land use and planning that are relevant to the Proposed Project:

- **Goal LUG-2**: Accommodate a rate of growth consistent with the physical and infrastructural limitations in Paradise.
- **Objective LUO-2**: Stimulate and accommodate commercial/industrial growth while maintaining the current quality of life.
- **Objective LUO-4**: Carefully manage and control population growth, while stimulating local economic growth.
- **Policy ESP-6**: School sites should have on a timely basis access to all utilities and services, including sewer, water, gas, electricity, and drainage.
- **Implementation Measure LUI-7**: Identify subareas, pipeline routes and priorities for the sewer system and complete construction for a sewer system to serve the central area of Paradise.
- **Policy LUP-27**: The Town shall create a Central Commercial area generally bounded by Skyway, the Paradise Memorial Trailway, Elliott Road, and Pearson Road, evidencing the following: ready access from a variety of directions, visibility, established businesses, available developable land, and sufficient infrastructure planned or in place to support a more concentrated form of activity.
- **Objective LUO-10**: Consider the construction and installation of a formal sewer system to service the commercial and industrial areas in the Town within the 15-year planning period.
- **Goal LUG-13**: Designate appropriate areas for high density residential use and for institutional and public uses in centralized and convenient locations.
- **Policy LUP-16**: The Town will attempt to implement all feasible steps to assure that sewer service is made available to the commercial area of the Town as expeditiously as possible.
- **Goal LUG-32**: Assure that all land uses in the Town conform to the goals and policies of the *General Plan*.
- **Policy LUP-45**: New higher density land use development should only be permitted in areas compatible with surrounding land uses, infrastructure capabilities and established service levels.

Town of Paradise 2022–2030 Housing Element Update

The *Town of Paradise 2022-2030 Housing Element Update* (Town of Paradise 2022a) includes the following goals related to land use and planning that are relevant to the Proposed Project:

- HI-1: *Reduce Infrastructure Constraints to Development* – Continue to reduce infrastructure constraints to new development, particularly those constraints associated with wastewater disposal. The *General Plan* authorizes an ongoing identification of infrastructure and service limitations including those related to sanitary waste disposal which inhibit housing development.
- HI-4: *Density Bonus, SSA Overlay, and Other Opportunities for Increased Density* - Revise the density bonus ordinance (Chapter 17.44) to be consistent with State law, including AB 2345 and Government Code Sections 65915 and 65917 and identify incentives for affordable housing development. Perform the re-zonings described in Chapter 4 (of the *2022-2030 Housing*

Element of the Town of Paradise General Plan), for key parcels in the (sewer service area) and establish a Sewer Service Overlay Zone to allow increased densities up to 30 dwelling units/acre in the (sewer service area) to accommodate affordable housing.

- HI-7: *Small Lot Consolidation and Development* - Continue to encourage consolidation of small multi-family parcels as well as small, commercially designated parcels appropriate for residential use. This program can facilitate the development of affordable housing by creating lots large enough to accommodate denser multi-family residential projects. The planned sewer system is anticipated to also be an impetus for lot consolidation.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following goals related to land use and planning that are relevant to the Proposed Project:

- **Goal LU-1**: Continue to uphold and respect the planning principles on which the County's land use map is based.
- **Goal LU-3**: Create communities where there is a sense of well-being where families and neighbors can socialize, interact, and play.
- **Goal LU-5**: Provide adequate land for and promote the development of attractive commercial and industrial areas and uses that provide goods, services, and jobs.
- **Goal LU-9**: Coordinate land development with provision of new services and infrastructure.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following goals related to land use and planning that are relevant to the Proposed Project:

- **Goal LU-1**: Reinforce the City's compact urban form, establish urban growth limits, and manage where and how growth and conservation will occur.
- **Goal LU-2**: Maintain a land use plan that provides a mix and distribution of uses that meet the identified needs of the community.

3.11.3 Method of Analysis

This section describes the methods used to analyze land use and planning characteristics within the study area.

3.11.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on land use if it would:

- **Impact LU-1:** Physically divide an established community
- **Impact LU-2:** Cause any 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

3.11.3.2 Approach to Analysis

Construction, Operation and Maintenance

A desktop analysis was completed to collect and analyze data related to land use and planning characteristics in the study area. Information was collected on land use designation and zoning within the study area. GIS data and aerial imagery were used to identify the land uses that encompass the study area. Additionally, the following resources were used for data collection:

- Butte County Development Services Information interactive GIS map (Butte County 2021b)
- Butte County Public Works Information interactive GIS map (Butte County 2021d)
- *Butte County General Plan 2030* land use designations map (Butte County 2012)
- Butte County Zoning Map (Butte County 2019a)
- Town of Paradise interactive viewer map (Town of Paradise 2021a)
- City of Chico General Plan Diagram land use designation map (City of Chico 2013)
- City of Chico Planning Division interactive GIS map (City of Chico 2021c)

The following methods were used to evaluate the potential impacts from construction, operation and maintenance of the Proposed Project on land use designations:

- The GIS data, aerial imagery, static and interactive maps were used to pinpoint the land use designations and zoning within the study area.
- Analysis of construction methods, ROW, and staging areas.
- Analysis of the Project's consistency with the requirements of all plans, policies, and regulations listed in the regulatory setting of the chapter.

The analysis of environmental effects focuses on foreseeable changes to the existing land use and planning characteristics resulting from the Proposed Project in the context of effects listed in Section 3.11.3.1, CEQA Significance Criteria. The analysis considers the Core Collection System, Export Pipeline System, and Extended Collection System, as appropriate, in the context of construction, off-site staging areas, post-construction operation, and maintenance.

3.11.4 Impact Analysis

This section describes the direct and indirect environmental impacts on land use that could result from implementation of the Proposed Project. The analysis considers land use consistency with existing policies and regulations, as well as the potential for changes to land use designations or zoning.

3.11.4.1 Impact LU-1: Physically divide an established community (No Impact)

Construction

The Proposed Project would primarily be constructed below the surface within the public ROW and would only rise to the surface for parcel connections, at pump station locations within the Core and Extended Collection System areas, and at the Chico WPCP connection. Within the Town, construction of the Core and Extended Collection Systems would use in-street pipe trenching, which after construction would be backfilled and restored to existing or better conditions.

The Export Pipeline System would also be constructed underground, primarily within existing ROW. Approximately 1.1 miles of the pipeline would traverse private property and require a permanent easement from the private property owners (Section 2.5.2.4 Easement or Encroachment Requirements). Above ground structures including pump stations, the transition chamber and the flow control and metering structure would be part of the system (Section 2.5.2 Export Pipeline System); however, these would be in the public ROW and would not segment or divide an established community. Based on these factors, there would be no impact from physically dividing an established community during construction.

Mitigation. No mitigation required.

Operation and Maintenance

According to the *Town of Paradise 2022–2030 Housing Element Update*, an implementation measure to create a Sewer Service Overlay Zone was established to allow increased densities up to 30 dwelling units per acre in the sewer service area (Town of Paradise 2022a). As discussed in Section 2.5.1 Core Collection System, this Proposed Project component aligns geographically with what is defined as the Sewer Service Area (SSA) in the *Town of Paradise 2022 Housing Element* (Town of Paradise 2022a). The Proposed Project is consistent with the goals and policies in the Housing Element as it would serve most businesses in the Town of Paradise and provide for future development of more multi-family residences, which is currently limited because of septic system constraints. Further, the Proposed Project assists the Town in meeting the goals presented in the *Town of Paradise 2022–2030 Housing Element Update* as it provides the sewage capacity for the increase in densities per acre to occur.

Operation and maintenance of the Proposed Project will involve periodic inspection of the Core Collection System, Extended Collection System, Export Pipeline System and associated instrumentation, and flow data sampling (2.8 Proposed Operation and Maintenance). These activities will be required periodically throughout the year and will not involve activities or permanent structures that would divide established communities.

In summary, because most of the Proposed Project components would be below the surface and all exposed ground would be restored back to existing conditions post construction, any above-ground components would be within existing ROW and would be relatively small structures, and rezoning would be consistent with the *Town of Paradise 2022–2030 Housing Element Update*, the Proposed Project would not physically divide an established community and no impact would occur during operation and maintenance.

Mitigation. No mitigation required.

3.11.4.2 Impact LU-2: Cause any 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 (No Impact)

The objective of the Proposed Project is to provide a sewer system to serve the Town in compliance with the *Town of Paradise General Plan* policies LUG-2, LUO-2, LUO-4, ESP-6, LUI-7, LUO-10, LUG-13,LUP-16, LUP-27, LUG-32, and LUP-45 (Town of Paradise and Quad Consultants 2008), as well as the *Town of Paradise 2022-2030 Housing Element Update* (Town of Paradise 2022a) goals: HI-1, HI-5,

and HI-8. The Proposed Project is consistent with these aforementioned policies and all other applicable land use and planning goals and policies identified in the *General Plan*. The Town of Paradise will be updating its General Plan in response to the 2018 Camp Fire, and will include updates to its land use, circulation, conservation, noise, open space, and air quality elements. This is anticipated to be a minimum 3-year process (S. Hartman, personal communication, November 19, 2021). The Proposed Project is also consistent with the goals and policies planned to be included in the *Town of Paradise General Plan* updates (S. Hartman, personal communication, November 19, 2021).

Table 3.11-1 provides a consistency analysis of applicable land use goals, policies, and regulations adopted for the purpose of avoiding or mitigating environmental effects.

Table 3.11-1. Consistency with State and Local Land Use Plans, Policies, and Regulations

Goals and Policies	Project Consistency
Land Use and Planning	
California State Planning and Zoning Law	**Consistent.** The Proposed Project will follow all Butte County, Town of Paradise, and City of Chico laws and regulations as it relates to land use. These include *Butte County General Plan 2030* (Butte County 2012), *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008), and *Chico 2030 General Plan* (City of Chico 2017).
Butte County General Plan 2030 Goal LU-1: Continue to uphold and respect the planning principles on which Butte County's land use map is based.	**Consistent**. The Proposed Project would not impact any existing land use designation and will follow all Butte County planning principles.
Butte County General Plan 2030 Goal LU-3: Create communities where there is a sense of well-being where families and neighbors can socialize, interact, and play.	**Consistent**. The Proposed Project's objective is to encourage economic vitality and improve the overall Paradise community by reducing the potential for public health concerns.
Butte County General Plan 2030 Goal LU-5: Provide adequate land for and promote the development of attractive commercial and industrial areas and uses that provide goods, services, and jobs.	**Consistent**. The Proposed Project's objective is to improve the local economy by stimulating existing businesses and encouraging new businesses. This, in effect, would provide more goods, services, and job opportunities for residents.
Butte County General Plan 2030 Goal LU-9: Coordinate land development with provision of new service and infrastructure.	**Consistent**. The Proposed Project would take into consideration of any existing land use designation and land development with the new sewer service and infrastructure.
Town of Paradise General Plan Objective LUO-10: Consider the construction and installation of a formal sewer system to service the commercial and industrial areas in the Town within the 15-year planning period.	**Consistent.** The objective of the Proposed Project is to provide a sewer system to serve the Town in compliance with the *Town of Paradise General Plan* policies LUO-10, ESP-6, LUP-16, and LUI-7 (Town of Paradise and Quad Consultants 2008) and those policies being included by the Town in their current process to update the *General Plan*.

Goals and Policies	Project Consistency
Town of Paradise General Plan Policy ESP-6: School sites should have on a timely basis access to all utilities and services, including sewer, water, gas, electricity, and drainage.	**Consistent.** The objective of the Proposed Project is to provide a sewer system to serve the Town in compliance with the *Town of Paradise General Plan* policies LUO-10, ESP-6, LUP-16, and LUI-7 (Town of Paradise and Quad Consultants 2008) and those policies being included by the Town in their current process to update the *General Plan*.
Town of Paradise General Plan Goal LUG-2: Accommodate a rate of growth consistent with the physical and infrastructural limitations in Paradise.	**Consistent**. The Proposed Project will provide sewer service to approximately 1,500 parcels that would serve most businesses in the Town and future multi-family residential developments. Additional parcels could be added through considerations of the Extended Collection System.
Town of Paradise General Plan Objective LUO-2: Stimulate and accommodate commercial/industrial growth while maintaining the current quality of life.	**Consistent**. The Proposed Project's objective is to encourage economic vitality and improve the overall Paradise community by reducing the potential for public health concerns.
Town of Paradise General Plan Objective LUO-4: Carefully manage and control population growth, while stimulating local economic growth.	**Consistent**. The Proposed Project's objective is to improve the local economy by stimulating existing businesses and encouraging new businesses. This, in effect, would provide more goods, services, and job opportunities for residents.
Town of Paradise General Plan Policy LUP-45: New higher density land use development should only be permitted in areas compatible with surrounding land uses, infrastructure capabilities and established service levels.	**Consistent**. The sewer service area would be compatible with surrounding land uses, infrastructure capabilities and established service levels.
Town of Paradise 2022-2030 Housing Element Update Goal HG-1: Encourage and facilitate the production of all housing types, from affordable workforce housing to executive homes, to meet the town's share of regional housing needs consistent with the overall goal, objectives and policies of the Paradise General Plan.	**Consistent.** The sewer service area would provide for future development of more multi-family residences, which is currently limited because of septic system constraints.
Town of Paradise 2022-2030 Housing Element Update Incentive HI-4: Density bonus, SSA overlay, and other opportunities for increased density	**Consistent.** The sewer service area would provide for future development of more multi-family residences, which is currently limited because of septic system constraints. The Proposed Project assists the Town in meeting the goals presented in the *Town of Paradise Housing Element* as it provides the sewage capacity for the increase in densities per acre to occur.
Chico 2030 General Plan Goal LU-1: Reinforce the City of Chico's compact urban form, establish urban growth limits, and manage where and how growth and conservation will occur.	**Consistent**. The Proposed Project's objectives would not affect Chico's compact urban form or create any substantial population growth in Chico, as discussed in Section 0, Population and Housing.
Chico 2030 General Plan Goal LU-2: Maintain a land use plan that provides a mix and distribution of uses that meet the identified needs of the community	**Consistent**. The Proposed Project would provide efficient regional wastewater treatment for Chico and would not impact existing land use.

Goals and Policies	Project Consistency
Air Quality	
SB 32	**Consistent.** The Proposed Project would not generate GHG emissions during construction that would exceed SMAQMD's significance thresholds, which are based on SB 32 GHG emissions reduction goals. Because of this, it would not conflict with SB 32 GHG emissions reduction goals. (Note: the Proposed Project is in the BCAQMD, but since no GHG thresholds have been set for this District, SMAQMD's significance thresholds were used in impact analysis (Section 3.8 Greenhouse Gas Emissions).
Northern Sacramento Valley Planning Area 2018 Triennial Air Quality Attainment Plan	**Consistent.** The Proposed Project could foster re-population and economic re-growth indirectly recovering from the 2018 Camp Fire; however, that growth would be contained within the Town and as a result, the Proposed Project would be consistent with BCAG's growth projections. Thus, it would not conflict with the Attainment Plan.
Hydrology and Water Quality	
Clean Water Act (Section 401 and 404)	**Consistent.** The Proposed Project will comply with applicable permitting requirements during construction.
California Department of Fish and Wildlife Lake and Streambed Alteration Program	**Consistent.** The Proposed Project will comply with applicable permitting requirements during construction.
California Water Board's *Strategic Plan Summary 2008-2012*	**Consistent.** The Proposed Project intends to improve groundwater quality and increase water supplies, which are the two key objectives in the strategic plan.
Butte County Groundwater Conservation Ordinance	**Consistent.** The Proposed Project would not include the use of groundwater. The Proposed Project would not introduce impervious surfaces that would have the potential to impede groundwater recharge, and no impact on a sustainable groundwater management plan or ordinance would occur.
Hazards and Hazardous Materials	
2017 Butte County Airport Land Use Compatibility Plan	**Consistent.** The Proposed Project would not include tall structures that have the potential to intrude upon protected airspace and would not include land use features that have the potential to attract birds and certain other potentially hazardous wildlife to the Airport area. Visual hazards, including certain types of lights, sources of glare, and sources of dust, steam or smoke would be minimized during construction through project controls.
Biological Resources	
Butte Regional Conservation Plan	**Consistent.** The Proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. A portion of the study area overlaps with the Butte Regional Conservation Plan (BRCP), which as of summer 2021 had not been formally adopted, though it was in the final phase of development. However, Project construction activities will not conflict with the Plan.

Construction

As shown in Table 3.11-1, the Proposed Project will not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect during construction. No impact would occur.

Mitigation. No mitigation required.

Operation and Maintenance

As shown in Table 3.11-1, the Proposed Project will not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect during operation and maintenance and there would be no impact.

Mitigation. No mitigation required.

3.11.5 Impacts Summary

Table 3.11-2 summarizes the land use and planning impacts of the Proposed Project.

Table 3.11-2. Land Use and Planning Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact LU-1: Physically divide an established community	NI	N/A	NI
Impact LU-2: Cause any 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	NI	N/A	NI

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

3.11.6 References

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3.12 Noise and Groundborne Vibration

This section describes the environmental setting and regulatory framework for noise and groundborne vibration, and it identifies direct and indirect impacts of the Proposed Project during construction, operation, and maintenance. The section discusses whether the Proposed Project would generate temporary or permanent increases in ambient noise levels in the vicinity of the Proposed Project such that the noise level would exceed standards set in the local general plan or noise ordinance, or applicable noise standards set by other agencies. This section also focuses on the possible generation of excessive noise and groundborne vibration in the study area where sensitive receptors are most susceptible to impacts as a result of the Proposed Project's construction, operation, and maintenance. The study area for noise and groundborne vibration refers to the areas within and directly adjacent to the Town of Paradise and areas of unincorporated Butte County and Chico where the proposed pipeline alignment runs, as well as a 1,000-foot buffer radius surrounding the Proposed Project, as prescribed in Policy HS-P1.7 in the *Butte County 2030 General Plan*.

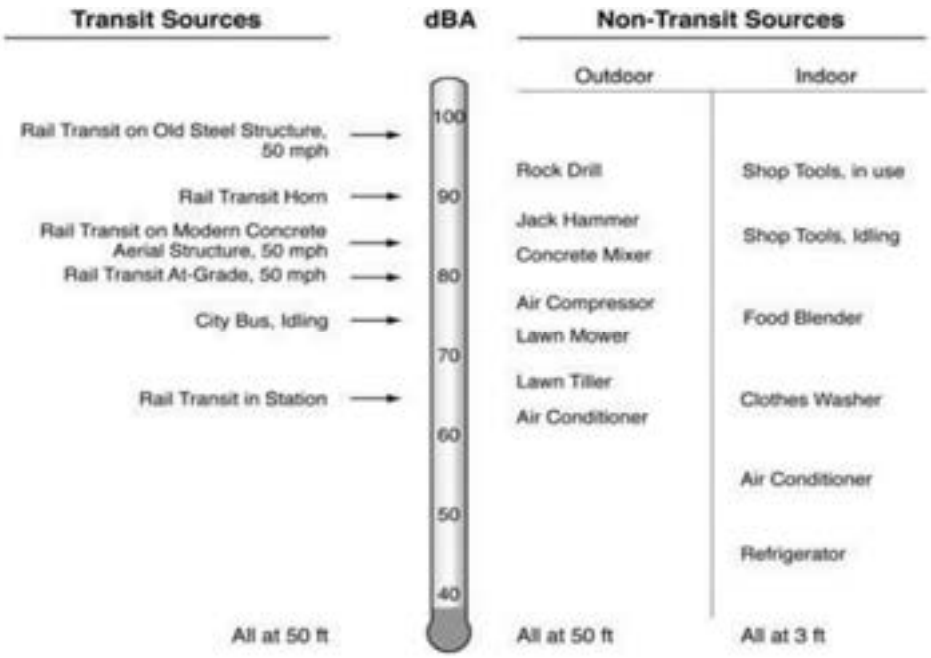
3.12.1 Environmental Setting

3.12.1.1 Overview of Noise and Sound

Noise levels are presented on a logarithmic scale to account for the large pressure response range of the human ear and are expressed in units of decibels (dB). A decibel is defined as the ratio between a measured value and a reference value usually corresponding to the lower threshold of human hearing defined as 20 micropascals. Because the human ear does not perceive every frequency with equal loudness, sounds are often adjusted with a weighting filter. The A-weighted filter is applied to compensate for the frequency response of the human auditory system and is known as an A-weighted decibel (dBA). Figure 3.12-1 shows typical A-weighted sound levels for transit and non-transit sources.

With respect to how the human ear perceives changes in sound pressure level relative to changes in "loudness," scientific research demonstrates the following general relationships between sound level and human perception for two sound levels with the same or very similar frequency characteristics:

- One dBA is the practical limit of accuracy for sound measurement systems and corresponds to an approximate 10 percent variation in the sound pressure level. A 1 dBA increase or decrease is an imperceptible change in sound.
- A 3 dBA increase or decrease is a doubling (or halving) of acoustic pressure level, and it corresponds to the threshold of change in loudness perceptible in a laboratory environment. In practice, the average person is not able to distinguish a 3 dBA difference in environmental sound outdoors.
- A 5 dBA increase or decrease is described as a perceptible change in sound level and is a discernible change in an outdoor environment.
- A 10 dBA increase or decrease is a tenfold increase or decrease in acoustic pressure level but is perceived as a doubling or halving in loudness (that is, the average person would judge a 10 dBA change in sound level to be twice or half as loud).



Source: Federal Transit Administration (FTA) 2018

Figure 3.12-1. Typical A-weighted Sound Levels

Noise levels can be measured, modeled, and presented in various formats. The noise descriptors used in this analysis have the following definitions:

- **Equivalent Sound Level (L_{eq}):** Conventionally expressed in dBA, the L_{eq} is the energy averaged, A weighted sound level over a specified period. It is defined as the steady, continuous sound level over a specified period that has the same acoustic energy as the actual varying sound levels over the specified period. It is a mean average sound level.
- **Maximum Sound Level (L_{max}):** The L_{max} is the maximum A-weighted sound level as determined during a specified measurement period. It can also be described as the maximum instantaneous sound pressure level generated by a piece of equipment or during a construction activity.
- **Day-Night Average Sound Level (L_{dn}):** The L_{dn} is the average hourly A-weighted L_{eq} for a 24hour period with a 10 dB penalty added to sound levels occurring during the evening hours (7 p.m. to 10 p.m.) to account for people's increased sensitivity to noise levels during nighttime hours.
- **Community Noise Equivalent Level:** The community noise equivalent level is another average A-weighted L_{eq} sound level measured over a 24-hour period; however, this noise scale is adjusted to account for some people's increased sensitivity to noise levels during the evening and nighttime hours. A community noise equivalent level noise measurement is obtained after adding 5 dB to sound levels occurring during evening hours (7 p.m. to 10 p.m.) and 10 dB to noise levels occurring during nighttime hours (10 p.m. to 7 a.m.).

3.12.1.2 Overview of Groundborne Vibration

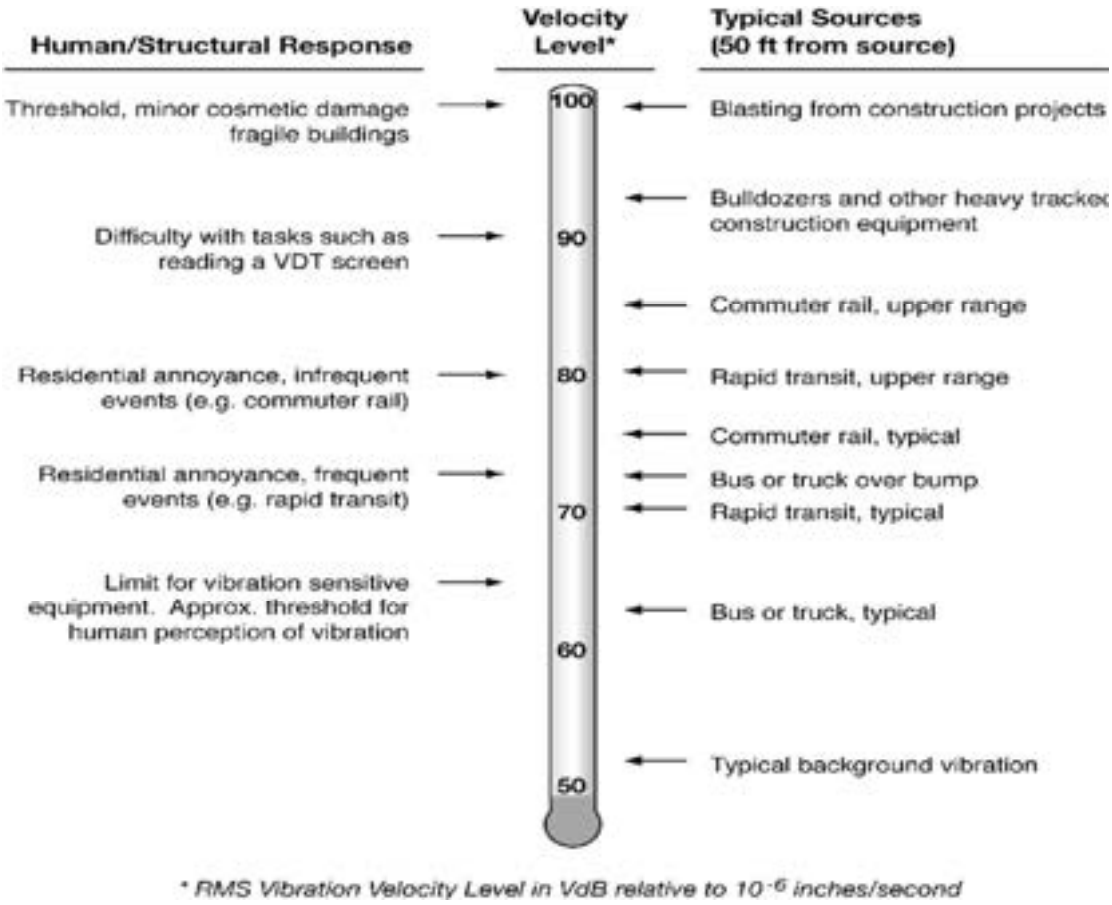
Activities such as pile-driving and operation of heavy equipment may cause groundborne vibration during construction of the Proposed Project. Vibration is an oscillatory motion that can be described in terms of the displacement, velocity, or acceleration (Federal Transit Administration [FTA] 2018). Velocity or acceleration is typically used to describe vibration. The vibration descriptors used in this analysis have the following definitions:

- **Peak Particle Velocity (PPV):** The maximum instantaneous positive or negative peak of the vibration signal. The potential for damage to buildings as a result of construction related vibration is evaluated using PPV. PPV is expressed in inch per second (in/sec).
- **Root Mean Square (RMS):** The square root of the average of the squared amplitude of the vibration signal, typically calculated over a 1 second period. The potential to annoy humans as a result of construction-related vibration is evaluated using RMS. RMS is expressed in in/sec.
- **Vibration Velocity Level (L_V):** Ten times the common logarithm of the ratio of the square of the amplitude of the RMS vibration velocity to the square of the amplitude of the reference RMS vibration velocity. The reference velocity in the United States is 1 micro-inch per second. L_V is expressed in vibration decibel (VdB).

Groundborne vibrations are generally reduced with distance depending on the local geological conditions. A receiver is a vibration-sensitive building (for example, residence, hospital, or school) where the vibrations may cause perceptible shaking of the floors, walls, and ceilings and a rumbling sound inside rooms. Not all receivers have the same vibration sensitivity. Consequently, vibration criteria are established for the various types of receivers. Groundborne noise occurs as a perceptible rumble and is caused by the noise radiated from the vibration of room surfaces.

Vibration above certain levels can damage buildings, disrupt sensitive operations, and cause annoyance to humans within buildings. The response of humans, buildings, and equipment to vibration is most accurately described using velocity or acceleration. In this analysis, vibration velocity (VdB) is the primary measure to evaluate the effects of vibration.

Figure 3.12-2 illustrates typical groundborne vibration velocity levels for common sources and thresholds for human and structural response to groundborne vibration. As shown, the range of interest is from approximately 50 to 100 VdB in terms of vibration velocity level (that is, from imperceptible background vibration to the threshold of damage). Although the threshold of human perception to vibration is approximately 65 VdB, annoyance does not usually occur unless the vibration exceeds 70 VdB.



Source: FTA 2018

Figure 3.12-2. Typical Groundborne Vibration Levels

3.12.1.3 Noise Sensitive Land Uses

Certain land uses are considered more sensitive to noise than others. Examples of these types of land uses include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. Several sensitive receptors including residential dwelling units, schools, nursing homes, hospitals, and day care centers are found within the study area. The closest sensitive receptors to the Proposed Project are the residential dwelling units along Entler Avenue, which are located within 50 feet of the proposed pipeline alignment (Google Earth 2022). See Figure 3.3-1 for the location of sensitive receptors within a 1,000-foot buffer radius surrounding the Project.

3.12.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on noise and groundborne vibration. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.12.2.1 Federal

Noise Control Act of 1972

The Noise Control Act of 1972 (42 USC 4901 to 4918) was the first comprehensive statement of national noise policy. The Noise Control Act declared "it is the policy of the U.S. to promote an environment for all Americans free from noise that jeopardizes their health or welfare." Although the Noise Control Act, as a funded program, was ultimately abandoned at the federal level, it served as the catalyst for comprehensive noise studies and the generation of noise assessment and mitigation policies, regulations, ordinances, standards, and guidance for many states, counties, and municipal governments.

The Proposed Project will be held to the principles set forth by this act.

Occupational Safety and Health Administration

The Occupational Safety and Health Administration established standards for occupational noise exposure under 29 CFR 1910.95. These regulations protect employees from excessive noise exposure and require a Hearing Conservation Program when routine exposure to high noise levels would occur. The regulations identify permissible daily noise exposures and stipulate that personal protection against the effects of noise exposure must be provided if those levels are exceeded.

The Proposed Project will be held to the standards set forth by the Occupational Safety and Health Administration.

Federal Transit Administration

The FTA developed the *Transit Noise and Vibration Impact Assessment Manual* (Noise Manual) in September 2018. The Noise Manual provides technical guidance for conducting noise and vibration analyses for transit projects. While these standards and impact assessment methodologies are not directly applicable to the Proposed Project, they are routinely used as guidelines for projects in state and local jurisdictions. The Noise Manual provides vibration criteria for structural damage by building/structural category as shown in Table 3.12-1.

Table 3.12-1. Groundborne Vibration Structural Damage Criteria

Building Category	PPV (in/sec)	L_V (VdB)
I. Reinforced concrete, steel, or timber (no plaster)	0.5	102
II. Engineered concrete and masonry (no plaster)	0.3	98
III. Non-engineered timber and masonry buildings	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Source: FTA 2018

Notes: PPV = peak particle velocity, in/sec = inch per second, L_V = vibration velocity level, VdB = vibration decibel

The Noise Manual also includes criteria for acceptable levels of groundborne vibration by vibration-sensitive land uses as shown in Table 3.12-2.

Table 3.12-2. Groundborne Vibration Human Annoyance Criteria

Land Use Category	Maximum L_V (VdB)	Description
Workshop	90	Vibration is distinctly felt. Appropriate for workshops and similar areas not as sensitive to vibration.
Office	84	Vibration can be felt. Appropriate for offices and similar areas not as sensitive to vibration
Residential – daytime	78	Vibration is barely felt. Adequate for land uses that are sensitive to vibration.
Residential – nighttime	72	Vibration is not felt, but groundborne noise may be audible inside quiet rooms.

Source: FTA 2018

Notes: L_V = vibration velocity level, VdB = vibration decibel

The Proposed Project will be held to the criteria established by FTA.

3.12.2.2 State

California Noise Control Act

The California Noise Control Act, enacted in 1973, finds that excessive noise is a serious hazard to public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. The act requires the Office of Noise Control in the Department of Health Services to provide assistance to local communities in developing local noise control programs. The Office of Noise Control also works with the Governor's Office of Planning and Research to provide guidance for preparing required noise elements in city and county general plans, pursuant to Government Code Section 65302(f).

The Proposed Project will be held to the principles set forth by this act.

Governor's Office of Planning and Research

The *State of California General Plan 2017 Guidelines* published by the Governor's Office of Planning and Research provides a basis for local programs to control and abate environmental noise and to protect residents from excessive exposure (Governor's Office of Planning and Research 2017). These guidelines include a noise level/land use compatibility chart that categorizes various outdoor L_{dn} ranges into up to four compatibility categories: normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable, depending on land use. These guidelines are used by many agencies, environmental planners, and acoustical specialists as a starting point to evaluate the potential for noise impacts on and by a project. The guidelines are also used to evaluate methods for achieving noise compatibility with respect to nearby existing uses.

The Proposed Project will be held to the State of California General Plan 2017 Guidelines.

3.12.2.3 Regional and Local

Town of Paradise General Plan

The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) includes the following policies related to noise and groundborne vibration that are relevant to the Proposed Project:

- **Policy NP-1**: Where proposed nonresidential land uses are likely to produce noise levels exceeding the performance standards of Table 6.4-1 at existing or planned noise-sensitive uses, an acoustical analysis will be required as part NP-7 of the environmental review process so that noise mitigation may be included in the project design.
- **Policy NP-4**: Where noise mitigation measures are required to achieve the standards of Tables 6.4-1 and 6.4-2, the emphasis of such measures will be placed upon site planning and project design. The use of noise barriers should be considered a supplemental means of achieving the noise standards after all practical design-related noise mitigation measures have been integrated into the project.
- **Policy NP-5**: Acoustical analyses should be prepared in accordance with the requirements of Table 6.4-3.
- **Policy NP-10**: The Town will ensure that new development situated near existing residential care and retirement facilities is consistent with the goals, objectives and policies of the Noise Element.

The Proposed Project will be held to the policies in the *Town of Paradise General Plan*.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following policies related to noise and groundborne vibration that are relevant to the Proposed Project:

- **Policy HS-P1.6**: Applicants proposing a new noise-producing development project near existing or planned noise-sensitive uses will provide a noise analysis prepared by an acoustical specialist with recommendations for design mitigation.
- **Policy HS-P1.7**: Applicants for discretionary permits will be required to limit noise-generating construction activities located within 1,000 feet of residential uses to daytime hours between 7:00 a.m. and 6:00 p.m. on weekdays and non-holidays.
- **Policy HS-P1.8**: Noise from generators will be regulated near existing and future residential uses.
- **Policy HS-P1.9**: The following standard construction noise control measures will be required at construction sites in order to minimize construction noise impacts:

    - Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
    - Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
    - Utilize quiet air compressors and other stationary noise-generating equipment where appropriate technology exists and is feasible.

The Proposed Project will be held to the policies in the *Butte County General Plan 2030*.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following policies related to noise and groundborne vibration that are relevant to the Proposed Project:

- **Policy N-1.3, Acoustical Analysis**: Where proposed projects are likely to expose noise-sensitive land uses to noise levels exceeding the City's standards, require an acoustical analysis as part of environmental review so that noise mitigation measures may be identified and included in the project design. The requirements for the content of an acoustical analysis are outlined in Table N-3.

The Proposed Project will be held to the policies in the *Chico 2030 General Plan*.

Noise Ordinances

The Town of Paradise, Butte County, and City of Chico each have established policies and standards that aim to minimize the effects of noise on people through prescriptive construction standards, zoning restrictions, hours of operation, and suppression techniques. Table 3.12-3 summarizes the applicable noise standards and policies.

Table 3.12-3. Noise Ordinance Specifications

Jurisdiction	Noise Criteria
Town of Paradise	The operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work is prohibited between the hours of 7 p.m. and 6 a.m. on weekdays or at any time on Sundays or holidays.
Butte County	Noise sources associated with construction activities occurring within 1,000 feet of residential uses is prohibited between the following hours: • Sunset to sunrise on weekdays and non-holidays; • Friday commencing at 6 p.m. through and including 8 a.m. on Saturday, as well as not before 8 a.m. on holidays; • Saturday commencing at 6 p.m. through and including 10 a.m. on Sunday; and • Sunday after the hour of 6 p.m.
City of Chico	Construction activities occurring between the hours of 10 a.m. and 6 p.m. on Sundays and holidays, and 7 a.m. and 9 p.m. on other days will be subject to one of the following limits: • No individual device or piece of equipment may produce a noise level exceeding 83 dBA at a distance of 25 feet from the source. • The noise level at any point outside of the property plane of the project may not exceed 86 dBA. The generation of noise in exceedance of 70 dBA at the property line of residential or commercial property is prohibited.

Source: Town of Paradise 2022d, Butte County 2021e, and City of Chico 2021d

Notes: dBA = A-weighted decibel

The Proposed Project will be held to these noise ordinances.

3.12.3 Method of Analysis

This section describes the methods used to analyze ambient noise and groundborne vibration impacts within the study area.

3.12.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on noise and groundborne vibration if it would:

- **Impact NSE-1**: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies
- **Impact NSE-2**: Generate excessive groundborne vibration or groundborne noise levels
- **Impact NSE-3**: Be located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels

3.12.3.2 Approach to Analysis

Impacts on ambient noise and groundborne vibration were identified qualitatively and quantitively. The analysis of environmental effects focuses on foreseeable changes to noise and groundborne vibration in the context of effects listed in Section3.12.3.1, CEQA Significance Criteria. The analysis considers the Core Collection System, Export Pipeline System, and Extended Collection System, as appropriate, in the context of construction, operation, and maintenance.

Construction

Impact on noise and groundborne vibration during construction of the Proposed Project were analyzed quantitatively. The anticipated increase in noise during construction of the Core Collection System and Export Pipeline System and the effect on noise-sensitive receptors was estimated using typical noise levels associated with construction equipment, derived from representative data presented in the Noise Manual (FTA 2018). Reference noise levels were used to estimate noise levels at nearby sensitive receptors based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). The increase in noise levels during construction of the Extended Collection System were estimated using comparable measures and assumptions to the Core Collection System. Noise impacts were determined by comparing the noise levels associated with construction of the Proposed Project against the noise limits adopted by Paradise, Butte County, and Chico.

Groundborne vibration levels associated with construction of the Core Collection System and Export Pipeline System were estimated using typical groundborne vibration levels associated with construction equipment obtained from Noise Manual (FTA 2018). Groundborne vibration levels associated with construction of the Extended Collection System were estimated using comparable measures and assumptions to the Core Collection System. Groundborne vibration impacts were determined by comparing the groundborne vibration levels associated with construction of the Proposed Project against FTA's groundborne vibration criteria for structural damage and human annoyance.

Operation and Maintenance

Impacts on noise and groundborne vibration during operation and maintenance were assessed qualitatively based on the information in Section 2.8 Proposed Operation and Maintenance.

3.12.4 Impact Analysis

This section includes an analysis of the Proposed Project's potential to generate an increase in ambient noise levels in excess of applicable noise standards, result in excessive groundborne vibration, and expose people residing or working in the study area to excessive noise levels as a result of being

located in the vicinity of an airport. The noise and groundborne vibration impact analysis focuses on impacts from construction, operation, and maintenance of the Core Collection system, the Export Pipeline System, and the Extended Collection System.

3.12.4.1 Impact NSE-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies (Less than Significant Impact with Mitigation Incorporated)

Construction

Construction activities associated with the Proposed Project would introduce new sources of noise in the study area in the form of construction traffic and construction equipment on a temporary basis. Construction activities, although temporary, could affect nearby noise-sensitive receptors. Several sensitive receptors including residential dwelling units, schools, nursing homes, hospitals, and day care centers are found in the study area. The closest sensitive receptors to the Proposed Project are the residential dwelling units along Entler Avenue, which are located within 50 feet of the proposed pipeline alignment (Google Earth 2022). See Figure 3.3-1 for the location of sensitive receptors within a 1,000-foot buffer surrounding the Proposed Project.

The traffic noise on roadways in the vicinity of the study area would increase due to commute of construction crews and the transport of equipment and materials on a short-term basis. Although construction traffic would temporarily increase noise along local roadways, the effect of construction traffic on long-term (i.e., hourly or daily) ambient noise levels would be minimal.

Construction of the Core Collection System and Export Pipeline System would require the use of heavy equipment that could be periodically audible at offsite locations. Anticipated construction equipment for the Core Collection System and Export Pipeline System are presented in Chapter 2 Project Description, Tables 2-2 and 2-5. Construction noise levels would fluctuate depending on the construction activity, equipment type, and distance between noise source and receiver. Additionally, noise from construction equipment would vary depending on the construction phase and the number and type of equipment at a location at any given time. Construction equipment noise levels are usually measured 50 feet from the source.

Table 3.12-4 lists typical noise levels for construction equipment associated with the Core Collection System and Export Pipeline System.

Table 3.12-4. Typical Construction Equipment Noise Levels

Equipment	Typical Noise Level (dBA) 50 feet from Source
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Generator	82
Loader	80
Paver	85

Equipment	Typical Noise Level (dBA) 50 feet from Source
Pump	77
Roller	85
Saw	76
Truck	84

Source: FTA 2018

As shown in Table 3.12-4, typical construction equipment would generate noise levels of up to 85 dBA at a distance of 50 feet. Therefore, at 50 feet, the nearest sensitive receptor would be exposed to noise levels of up to 85 dBA from construction equipment.

As presented earlier, the Paradise, Butte County, and Chico, have established noise standards and ordinances for construction activities. Construction activities associated with the Core Collection System and Export Pipeline System would exceed the daytime noise limits within these jurisdictions.

The construction methodology for the Extended Collection System would be similar to the Core Collection System. Crews and equipment used for the Extended Collection System would be similar to the Core Collection System, except that the duration would be shorter. The noise levels generated during construction of the Extended Collection System would be similar to those generated during construction of the Core Collection System. As presented earlier, noise levels associated with construction of the Core Collection System would exceed the noise limits within the applicable jurisdictions. Similar to the Core Collection System, construction of the Extended Collection System would generate noise levels that exceed the Town's daytime noise limits.

Based on the factors above, noise levels during construction of the Proposed Project would exceed the established noise standards, resulting in a potentially significant impact.

Mitigation. To minimize potentially significant noise impacts during construction of the Proposed Project to a less than significant level, mitigation measure **MM-NSE-1** will be implemented.

MM-NSE-1: Minimize Construction Noise. Prior to construction, the Town will incorporate the following measures into all construction plans and agreements to reduce noise levels during construction:

- Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise-generating equipment as far as possible from noise-sensitive receptors.
- Use quiet air compressors and other stationary noise-generating equipment where appropriate technology exists and is feasible.
- Maintain and tune all equipment in accordance with the manufacturer's recommendations to minimize noise emission.
- Install temporary construction-site sound barriers near noise sources.
- Prohibit unnecessary idling of internal combustion engines.
- Limit use of public address systems.

- Post the days and hours of construction as well as the name and phone number of a designated representative to be contacted for noise-related concerns at the perimeter of the construction site.
- Comply with county, city and/or town noise policies applicable to the location's jurisdiction.

***Significance after Mitigation*.** With the implementation of mitigation measure **MM-NSE-1**, noise impacts during construction would be less than significant.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would result in an increase in noise levels in the study area. Relative to existing noise levels on roadways in the study area, the addition of traffic associated with operation and maintenance of the Proposed Project would not affect ambient noise levels in the study area. As a result, noise levels would remain similar to existing conditions during operations and maintenance. Therefore, noise levels during operation and maintenance of the Proposed Project would not exceed the established standards, resulting in a less-than-significant impact.

Mitigation. No mitigation required.

3.12.4.2 Impact NSE-2: Generate excessive groundborne vibration or groundborne noise levels (Less than Significant Impact with Mitigation Incorporated)

Construction

Increases in groundborne vibration levels attributable to the Proposed Project would be primarily associated with construction-related activities from the Core Collection System, the Export Pipeline System, and the Extended Collection System.

Construction of the Core Collection System and the Export Pipeline System has the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used. Construction activities are anticipated to use equipment such as backhoes, roller compactors, vibratory plate compactors, excavators, drilling rigs, and trucks that have the potential to result in groundborne vibrations.

Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The types of construction vibration impacts include building damage and human annoyance. Table 3.12-1 and Table 3.12-2 present the groundborne vibration criteria for structural damage and human annoyance criteria respectively, based on the Noise Manual (FTA 2018).

Table 3.12-5 lists typical vibration levels for construction equipment associated with the Core Collection System and the Export Pipeline System.

Table 3.12-5. Typical Construction Equipment Vibration Levels

Equipment	PPV at 25 feet (in/sec)	L_V at 25 feet (VdB)
Vibratory Roller	0.21	94
Hoe Ram	0.089	87
Caisson Drilling	0.089	87
Loaded Trucks	0.076	86

Source: FTA 2018

Notes: PPV = peak particle velocity, in/sec = inch per second, L_V = vibration velocity level, VdB = vibration decibel

As shown in Table 3.12-5, the highest reference PPV at 25 feet from the construction equipment would be 0.21 inch per second (in/sec). As noted earlier, the closest sensitive receptors to the Proposed Project are the residential dwelling units along Entler Avenue, which are located within 50 feet of the proposed pipeline alignment (Google Earth 2022). The Noise Manual (FTA 2018) provides the following equation to assess construction vibration related to building damage for each piece of equipment:

$$PPV_{Equipment} = PPV_{Ref} (25/D)^{1.5}$$

Where:
$PPV_{Equipment}$ = PPV of equipment adjusted for distance (in/sec),
PPV_{Ref} = source reference PPV at 25 feet (in/sec), and
D = distance from equipment to the receiver (feet).

Using this equation, the construction vibration levels from the construction equipment at 50 feet would be 0.07 in/sec. This level is much lower than the 0.12 in/sec threshold in Table 3.12-1 for buildings extremely susceptible to vibration damage.

As shown in Table 3.12-5, the highest reference L_V at 25 feet from the construction equipment would be 94 VdB. As noted earlier, the closest sensitive receptors to the Proposed Project are the residential dwelling units along Entler Avenue, which are located within 50 feet of the proposed pipeline alignment (Google Earth 2022). For consideration of annoyance or interference with vibration-sensitive activities, the vibration level at any distance is calculated using the following formula from the Noise Manual (FTA 2018):

$$L_{V,distance} = L_{V,reference} - 30 \log (D/25)$$

Where:
$L_{V,distance}$ = the RMS velocity level adjusted for distance (VdB),
$L_{V,reference}$ = the source reference vibration level at 25 feet (VdB), and
D = distance from the equipment to the receiver (feet).

Using this equation, the groundborne vibration level at 50 feet from the construction equipment would be 85 VdB. This level would exceed the daytime annoyance threshold of 78 VdB for residential uses as listed in Table 3.12-2.

The construction methodology for the Extended Collection System would be similar to the Core Collection System. Crews and equipment used for the Extended Collection System would be similar to the Core Collection System, except that the duration would be shorter. The groundborne vibration levels generated during construction of the Extended Collection System would be similar to those generated during construction of the Core Collection System. As presented earlier, construction of the Core Collection System would generate groundborne vibration that exceeds the threshold for human annoyance. Similar to the Core Collection System, the Extended Collection System would generate groundborne vibration that exceeds the threshold for human annoyance.

Based on the discussion above, groundborne vibration levels during construction of the Proposed Project would exceed the threshold for human annoyance, resulting in a potentially significant impact.

Mitigation. To minimize potentially significant groundborne vibration impacts during construction of the Proposed Project to a less than significant level, mitigation measure **MM-NSE-1** will be implemented.

MM-NSE-1: Minimize Construction Noise (see Impact NSE-1 for description) ***Significance after Mitigation***. With the implementation of mitigation measure **MM-NSE-1**, groundborne vibration impacts during construction of the Proposed Project would be less than significant.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities or the use of vibration-generating equipment except if there were a pipe break and a section of pipeline needed to be replaced. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Proposed Project would not generate excessive groundborne vibration, resulting in no impact.

Mitigation. No mitigation required.

3.12.4.3 Impact NSE-3: Be located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels (Less than Significant Impact)

Construction, Operation, and Maintenance

The Proposed Project is not located within 2 miles of any public or public-use airport. A portion of the Proposed Project along Chico River Road is located approximately 1.5 mile from the privately owned Ranchaero Airport, which is west of Chico. A review of the *Butte County Airport Land Use Compatibility Plan* (Butte County Airport Land Use Commission 2017) shows that the portion of the Proposed Project

along Chico River Road is located within the low noise impact zone for Ranchaero Airport. Therefore, the Proposed Project would not expose people residing or working in the area to excessive noise levels, resulting in a less-than-significant impact.

Mitigation. No mitigation required.

3.12.5 Impacts Summary

Table 3.12-6 summarizes the noise and groundborne vibration impacts of the Proposed Project.

Table 3.12-6. Noise and Groundborne Vibration Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact NSE-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies	SI	MM-NSE-1	S/M
Impact NSE-2: Generate excessive groundborne vibration or groundborne noise levels	SI	MM-NSE-1	S/M
Impact NSE-3: Be located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels	LTS	N/A	LTS

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

3.12.6 References

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3.13 Population and Housing

This section describes the environmental setting and regulatory framework for population and housing, and it identifies direct and indirect impacts of the Proposed Project during construction, operation, and maintenance on population and housing in the study area. In particular, the population and housing analysis focuses on population and housing characteristics for Butte County, Paradise, and Chico in the study area. For the purposes of this PEIR, the population and housing study area refers to the areas within and directly adjacent to Paradise and areas of unincorporated Butte County and Chico where the proposed pipeline alignment runs.

3.13.1 Environmental Setting

This section begins by discussing the population and housing effects caused by the 2018 Camp Fire from each respective jurisdiction. It then discusses historical population and housing trends over the course of the past 20 years and also discusses current population and housing trends as it relates to future development.

3.13.1.1 Population and Housing Effects of the 2018 Camp Fire

On November 8, 2018, the Paradise was hit by the Camp Fire, the deadliest wildfire in California's history. Prior to the Camp Fire, Paradise was the second most populated city in Butte County. However, because of the fire, the population and housing in Paradise was significantly reduced. Almost 14,000 residential homes were lost and about 30,000 residents lost their homes (Boghani 2019). Because of the fire, most Paradise residents relocated to neighboring cities, in particular Chico. According to data provided by researchers at California State University, Chico, 28 percent of Paradise residents who relocated moved to Chico (Finch 2019).

Paradise saw a substantial decrease in population of over 83 percent from 26,581 to 4,474 (Table 3.13-1). Butte County also saw a slight decrease in population, most likely due to Paradise and neighboring residents relocating away from areas of Camp Fire damages. Chico, however, has experienced an increase in population since 2018. The population of Chico in 2018 was 92,040 (DOF 2021a). The population of Chico in 2019 was 110,126, an increase of over 19 percent (DOF 2021a). As of 2021, the population of Chico has steadily increased, with population estimates at 111,490 (DOF 2021b). As discussed, this population increase is likely due to Paradise residents relocating to Chico because of the Camp Fire.

Table 3.13-1. Population Before and After the Paradise Camp Fire

Geography	2017	2018	2019	Percentage Change 2018–2019
Butte County	225,468	226,098	220,855	-2.3
Town of Paradise	26,424	26,581	4,474	-83.2
City of Chico	91,166	92,040	110,126	19.7

Source: DOF 2021a

As shown in Table 3.13-2, Paradise also saw a substantial decrease in housing units of over 86 percent from 13,091 to 1,720. Butte County also saw a decrease in housing units, most likely due to the

housing units lost in the Camp Fire. Chico saw a slight increase in housing units of over 1 percent from 39,810 to 40,378 (DOF 2021b).

Table 3.13-2. Housing Units Before and After the Paradise Camp Fire

Geography	2017	2018	2019	Percentage Change 2018–2019
Butte County	98,871	99,353	85,447	-14
Town of Paradise	13,064	13,091	1,720	-86.9
City of Chico	39,341	39,810	40,378	1.4

Source: DOF 2021b

Finally, as shown in Table 3.13-3, Paradise saw a substantial decrease in households of over 82 percent from 26,173 to 4,474. Butte County also saw a slight decrease in households. Chico saw an increase in households of over 20 percent from 88,315 to 106,496 (DOF 2021b).

Table 3.13-3. Households Before and After the Paradise Camp Fire

Geography	2017	2018	2019	Percentage Change 2018–2019
Butte County	291,979	220,580	215,885	-2.1
Town of Paradise	26,016	26,173	4,474	-82.9
City of Chico	87,470	88,315	106,496	20.6

Source: DOF 2021b

3.13.1.2 Population

Table 3.13-4 and Table 3.13-5 present the historical and current population trends for Butte County, Paradise, and Chico for the past 20 years.

Table 3.13-4. Historic Population Trend

Geography	2000	2010	2020	Percentage Change 2000–2020
Butte County	203,171	220,000	208,951	2.8
Town of Paradise	26,408	26,218	4,608	-82.6
City of Chico	60,516	86,187	110,364	82.4

Source: DOF 2012, 2021a

As shown in Table 3.13-4, Butte County's total population increased from 203,171 in 2000 to 208,951 in 2020. Paradise saw a significant decrease in population from 26,408 in 2000 to 4,608 in 2020. Conversely, Chico saw an increase in population from 60,516 in 2000 to 110,364 in 2020 (DOF 2012, 2021a). As mentioned above, the Camp Fire drastically decreased the population of Paradise by over 82 percent. Damages caused by the fire moved existing Paradise residents into Chico, which inadvertently increased Chico's population.

Table 3.13-5. Current Population Trend Since Paradise Camp Fire

Geography	2019	2020	2021	Percentage Change 2019–2021
Butte County	220,855	208,951	202,669	-8.2
Town of Paradise	4,474	4,608	6,046	35.1
City of Chico	110,126	110,364	111,490	1.2

Source: DOF 2021a

As shown in Table 3.13-5, since 2018 Paradise has seen an increase in population between 2019 and 2021, with population estimates in 2021 at 6,046. Because the Camp Fire occurred toward the end of 2018 in November, the 2019 data is used for comparison. This immediate growth likely results from the return of residents to Town areas where damage was less. Chico's population also increased, but at a much slower rate of 1.2 percent (DOF 2021a). In contrast, Butte County's overall population decreased since the Camp Fire.

3.13.1.3 Housing and Households

Table 3.13-6 presents the historical housing trends for Butte County, Paradise, and Chico for the past 10 years.

Table 3.13-6. Historic Housing Trend

Geography	2010	2020	Occupied Housing Units (2020)	Vacancy Rate (2020)	Persons per Household (2020)
Butte County	95,835	86,122	79,220	5.4%	2.57
Town of Paradise	12,981	1,766	1,663	5.8%	2.77
City of Chico	37,050	41,738	39,490	8.0%	2.70

Source: DOF 2021b

As shown in Table 3.13-6, the total number of housing units in Butte County decreased from 95,835 in 2010 to 86,122 in 2020. Paradise saw a significant decrease in housing units from 12,981 in 2010 to 1,766 in 2020 (DOF 2021b). Conversely, Chico saw an increase in housing units from 37,050 in 2010 to 41,738 in 2020 (DOF 2021b).

Table 3.13-7 presents the historical and current household trends for Butte County, Paradise, and Chico for the past 10 years.

Table 3.13-7. Historic Household Trends

Geography	2010	2020	Percentage Change 2019–2020
Butte County	215,058	203,865	-5.2
Town of Paradise	25,810	4,608	-82.2
City of Chico	83,009	106,643	28.5

Source: DOF 2021b

As shown in Table 3.13-7, the total households for Butte County decreased from 215,058 in 2010 to 203,865 in 2020. Paradise saw a significant decrease in households from 25,810 in 2010 to 4,608 in

2020 (DOF 2021b). Conversely, Chico saw an increase in households from 83,009 in 2010 to 106,643 in 2020 (DOF 2021b).

In terms of forecasting future growth in housing, the *Provisional Long-Term Regional Growth Forecasts 2018-2040* (BCAG 2019b) forecasted a Low, Medium, and High Scenario for total housing growth for Paradise that reflects -31 percent, -13 percent, or 6 percent growth, respectively, between pre-fire conditions in 2018 and 2040. The assumptions for these forecasts did not include construction of the sewer system. Further, in the *Post Camp Fire Regional Population and Transportation Study* (Fehr and Peers 2021) prepared for BCAG in 2021, key findings in the housing and employment forecast included that there would be a reduction in total county housing count for each forecast year as compared to findings in a previous study in 2020, partially because the DOF lowered their population projections for all of Butte County (Fehr and Peers 2021). Further, specific to the Town, the report states “In addition to the countywide reduction, Paradise is expected to have slower growth (as compared to their 2020 study) in both near and long-term forecasts, with Chico’s growth making up the difference” (Fehr and Peers 2021). BCAG will be finalizing their regional growth forecasts through 2040 using the findings of the *Post Camp Fire Regional Population and Transportation Study* (Fehr and Peers 2021) and incorporating that information in BCAG’s 2024 Regional Transportation Plan/Sustainable Communities Strategy (BCAG 2019b).

In comparison to the regional forecast prepared by BCAG in 2014, the 2019 forecast presents a significantly slower growth trend. Compound annual growth rates presented in the 2019 forecasts (2018-2040) range from 0.48 to 0.88 percent for housing, compared to the 1.17 to 1.57 percent compound annual growth rates prepared in 2014 (2014-2040). This represents a 50 percent decrease for the medium scenario (BCAG 2019b).

3.13.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project’s impacts on population and housing. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.13.2.1 Federal

No identified federal laws, regulations, orders, policies, or plans regarding population and housing are relevant to the Proposed Project.

3.13.2.2 State

California Relocation Act

The California Relocation Act requires state and local governments to provide relocation assistance and benefits to persons displaced as a result of projects undertaken by state or local governments that do not involve federal funds.

California Department of Housing and Community Development Home Investment Partnerships Program

The California Department of Housing and Community Development Home Investment Partnerships Program (HOME) was created to assist cities, counties, developers, and nonprofit Community Housing

Development Organizations to create and retain affordable housing. It provides grants to cities and counties and low-interest loans to developers. Eligible activities to receive the grant must benefit low-income renters and owners.

3.13.2.3 Regional and Local

Town of Paradise General Plan

As discussed in the regulatory section of Land Use and Planning, *The Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) was adopted by the Paradise Town Council on October 4, 1994. A discussion of amendments and can be found in Section 3.11.2.3 and supporting materials are in Appendix B Town of Paradise 1994 General Plan Resolution and Amendments. As previously noted, all amendments are assumed incorporated when referencing the *Town of Paradise General Plan* in this document. The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) includes the following goals related to population and housing that are relevant to the Proposed Project:

- **Goal HG-1**: Encourage and facilitate the production of all housing types, from affordable workhorse housing to executive homes, to meet the Town's share of regional housing needs consistent with the overall goals, objectives, and policies of the Paradise General Plan.
- **Goal HG-2**: Improve and preserve safe, decent housing and neighborhoods for all Paradise residents.
- **Goal LUG-2**: Accommodate a rate of growth consistent with the physical and infrastructural limitations in Paradise.
- **Objective LUO-2**: Stimulate and accommodate commercial/industrial growth while maintaining the current quality of life.
- **Objective LUO-4**: Carefully manage and control population growth, while stimulating local economic growth.
- **Goal LUG-13**: Designate appropriate areas for high density residential use and for institutional and public uses in centralized and convenient locations.
- **Goal LUG-20**: Develop a strong local economy, recognizing that this is a key element in solving service providers' financial difficulties.
- **Goal LUG-24**: Encourage a sense of community in Paradise.

The Proposed Project will be held to the goals and policies in the *Town of Paradise General Plan*.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following policies related to population and housing that are relevant to the Proposed Project:

- **Policy H-P1.2**: Focus development in the unincorporated areas of the spheres of influence of the cities to accommodate the County's housing allocation.
- **Policy H-P5.1**: Continue to promote housing opportunities for all persons regardless of age, race, religion, gender, marital status, national origin, disability, or other barriers that prevent choice in housing.
- **Policy ED-P1.1**: The County's priority for future growth is creating sustainable jobs and providing a living wage to families to reduce poverty.

The Proposed Project will be held to the policies in the *Butte County General Plan 2030*.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following pertinent goals related to population and housing that are relevant to the Proposed Project:

- **Goal ED-1**: Maintain and implement an Economic Development Strategy to enhance Chico's long-term prosperity.
- **Goal SUS-1**: Balance the environment, economy and social equity, as defined in the General Plan, to create a sustainable Chico.
- **Goal H1**: Increase equal housing opportunities.
- **Goal H2**: Provide housing that is affordable to low incomes.

The Proposed Project will be held to the goals in the *Chico 2030 General Plan*.

3.13.3 Method of Analysis

This section describes the methods used to analyze population and housing characteristics within the study area.

3.13.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on population and housing if it would:

- **Impact POP-1:** Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)
- **Impact POP-2:** Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere

3.13.3.2 Approach to Analysis

Construction, Operation and Maintenance

Impacts on population and housing were identified qualitatively and quantitively based on the Proposed Project's potential to induce substantial unplanned population growth or displace existing people or housing. Data was found via the DOF population and housing estimates report. The following tables were used:

- E-4 Population Estimates for Cities, Counties, and the State, 2011-2021 with 2010 Census Benchmark (DOF 2021a).
- E-5 Population and Housing Estimates for Cities, Counties, and the State – January 1, 2011-2021 (DOF 2021b).
- E-8 Historical Population and Housing Estimates for Cities, Counties, and the State, 2000-2010 – Organized by Year (DOF 2012).

The DOF data was used over US Census Bureau American Community Survey estimates. According to the DOF (2021c), it conducted an annual housing survey that used several metrics to help determine

various housing characteristics, such as vacancy rate. These housing data were factored into the population estimates provided in each report above. This annual housing survey is conducted every year. Additionally, the DOF data was preferred because the DOF receives periodic population data updates from agencies such as CALFIRE and FEMA. American Community Survey methodology was not preferred because the American Community Survey uses estimates sampling, and it is assumed that American Community Survey data could not account for the 2018 Camp Fire, which is pertinent to the population and housing analysis.

Data found in BCAG's *Provisional Long-Term Regional Growth Forecasts 2018-2040* (BCAG 2019b) and the *Post Camp Fire Regional Population and Transportation Study* which was prepared for BCAG by Fehr and Peers (2021) were used for Town population and housing forecasts.

The analysis of environmental effects focuses on foreseeable changes to population and housing in the context of effects listed in Section 3.13.3.1, CEQA Significance Criteria. The analysis considers the Core Collection System, Export Pipeline System, and Extended Collection System, as appropriate, in the context of construction, operation, and maintenance.

3.13.4 Impact Analysis

This section describes the potential environmental impacts on population and housing as a result of implementation of the Proposed Project. It includes an analysis of the Proposed Project's potential to induce population growth directly or indirectly, such as through the creation of jobs, or permanently displace housing and/or people.

3.13.4.1 Impact POP-1: Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure) (Less than Significant Impact)

Construction

Construction of the Core Collection System, Export Pipeline System, and Extended Collection System would generate new jobs within the study area. Section 2.5.1.3.1 Construction Crews and Equipment provides a table estimating crews for the Core Collection System and, given that the schedule is expedited, estimates how many of each crew type would be working at the same time, Section 2.5.2.3.1 provides similar estimates for the Export Pipeline System. Section 2.6 Proposed Schedule also shows construction for both components occurring at the same time. In total, more than 200 construction jobs could be generated, However, all construction jobs associated with the Proposed Project would be temporary, lasting for an estimated 2-year construction schedule (Section 2.6 Proposed Schedule). Construction workers could be drawn from the existing workforce within Butte County; however, it is likely that some would be migrant workers from outside of the County that follow construction jobs from location to location, and there may be others that relocate to the Town for the work and decide to stay. Workers that become permanent residents would be part of the Town's population recovery. Consequently, construction of the Proposed Project would not result in substantial or unplanned population growth and would not necessitate the construction of new roads, additional housing or business services that would be inconsistent with regrowth planned and presented in the *Town of Paradise 2022-2030 Housing Element Update* (Town of Paradise 2022a) and *Town of Paradise General Plan* (Town of Paradise and

Quad Consultants 2008). Therefore, construction of the Proposed Project would not induce substantial unplanned population growth in the study area, resulting in a less-than-significant impact.

Mitigation. No mitigation required.

Operation and Maintenance

The Proposed Project includes a Core Collection System, Export Pipeline System, and Extended Collection System to address the need for a municipal wastewater management solution. While the Proposed Project would not be the direct reason for any substantial housing unit development or population increases in Paradise, the Proposed Project would accommodate population increases within the Town limits in alignment with the objectives and policies set forth in the *Town of Paradise 2022-2030 Housing Element Update* (Town of Paradise 2022a) and *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008). In fact, the intent of the Proposed Project is to induce population *regrowth* and *repopulation* toward pre-fire levels (Section 2.3 Project Need and Objectives). However, as discussed further in Section 4.4 Growth Inducing Impacts, this population growth would still be limited, as it would be contained within the existing Town boundaries and would be controlled by the permits issued by the Town.

About 5–10 permanent employees would be required to serve the Proposed Project during operations and maintenance (Section 2.8 Proposed Operation and Maintenance). The permanent employees may be re-assigned from existing staff within the Town or may be additional new staff. The minimal increase in permanent jobs would not result in substantial or unplanned population growth and would not necessitate the construction of additional housing or business services beyond planned regrowth discussed above.

Although implementation of the Proposed Project would foster population growth, it is primarily regrowth that would be expected as part of the historic population levels in the Paradise area. Therefore, operation and maintenance of the Proposed Project would not induce substantial unplanned population growth in the study area, resulting in a less-than-significant impact.

Mitigation. *No mitigation required.*

3.13.4.2 Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere (No Impact)

Construction, Operation, and Maintenance

The Proposed Project would not acquire or take any residential-zoned land in the area. Most of the work associated with the construction of the Core and Extended Collection Systems and the Export Pipeline System would be done within public ROW and would not cause displacement of existing residents or housing. Work that would occur on private parcels, including connecting properties to the new sewer system or installing the Export Pipeline System would be completed under easements and would not displace existing housing. Therefore, the Proposed Project would not displace substantial numbers of existing people or housing which would necessitate the construction of replacement housing. There would be no impact.

Mitigation. No mitigation required.

3.13.5 Impacts Summary

Table 3.13-8 summarizes the population and housing impacts of the Proposed Project.

Table 3.13-8. Population and Housing Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact POP-1: Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)	LTS	N/A	LTS
Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere	NI	N/A	NI

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

3.13.6 References

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3.14 Public Services

This section describes the environmental setting and regulatory framework for public services, and it identifies direct and indirect impacts of the Proposed Project during construction, and operation, and maintenance on public services. In particular, the public services analysis focuses on fire protection services, police protection services, schools, and libraries within the study area. For the purposes of this PEIR, the study area for public services refers to the areas within and directly adjacent to Paradise and areas of unincorporated Butte County and Chico where the proposed pipeline alignment runs. Refer to Section 0, Recreation, for an analysis of the Proposed Project's impacts on parks and recreation facilities.

3.14.1 Environmental Setting

This section describes the fire protection services, police protection services, schools, and libraries within the study area.

3.14.1.1 Fire Protection

Fire protection services in the study area are provided by the Butte County Fire Department (BCFD), Paradise Fire Department (PFD), and Chico Fire Department (CFD). The BCFD and PFD contract with the CALFIRE to provide fire protection services. Figure 3.14-1 provides an overview of the location of fire protection facilities within the study area.

Butte County Fire Department//California Department of Forestry and Fire Protection

Since 1931, Butte County has contracted with CALFIRE to provide staffing to the BCFD through cooperative fire protection agreements (Butte County 2010). Under the terms of this agreement, Butte County funds CALFIRE professional command, firefighting, and administrative staff to operate the BCFD. Through this arrangement, CALFIRE and the BCFD function together as a fully consolidated fire protection agency and provide fire protection service to unincorporated Butte County.

BCFD/CALFIRE services include fire control for structural, vegetation, vehicular, and other unwanted fires; emergency medical services; technical rescue response; hazardous materials response; flood control assistance; fire prevention and public safety education; fire law enforcement/arson investigation; and vegetation management. In addition, BCFD/CALFIRE operates countywide dispatch services, coordinates major emergency response within the county, and provides training for career and volunteer fire fighters (Butte County 2010).

The BCFD/CALFIRE operates 20 fire stations throughout the entire Butte County (Butte County 2022a). The closest BCFD/CALFIRE station to the Proposed Project is Station 44, which is located at 2334 Fair Street in Chico. Station 44 is located approximately 0.6 miles from the proposed pipeline alignment (Google Earth 2022). Station 44 houses one fire engine, which responded to 983 emergency incidents in 2019 (Butte County 2022b).

Paradise Fire Department/California Department of Forestry and Fire Protection

The Town has contracted with CALFIRE to provide firefighting personnel to the PFD through a cooperative agreement (Town of Paradise 2022e). The PFD/CALFIRE responds to all emergencies including fires, emergency medical services, hazardous materials, and public assists within the

Paradise Town limits. The average response time within the Town is less than four minutes (Rick Manson, email communication, 2022)

The current minimum staffing for the PFD/CALFIRE is three personnel assigned to each engine (Town of Paradise 2022e). Typical engine staffing includes a captain, an engineer, and a firefighter. The PFD/CALFIRE is currently staffed with 19 employees, with four of those positions being grant funded through March 2023 (Rick Manson, email communication, 2022).

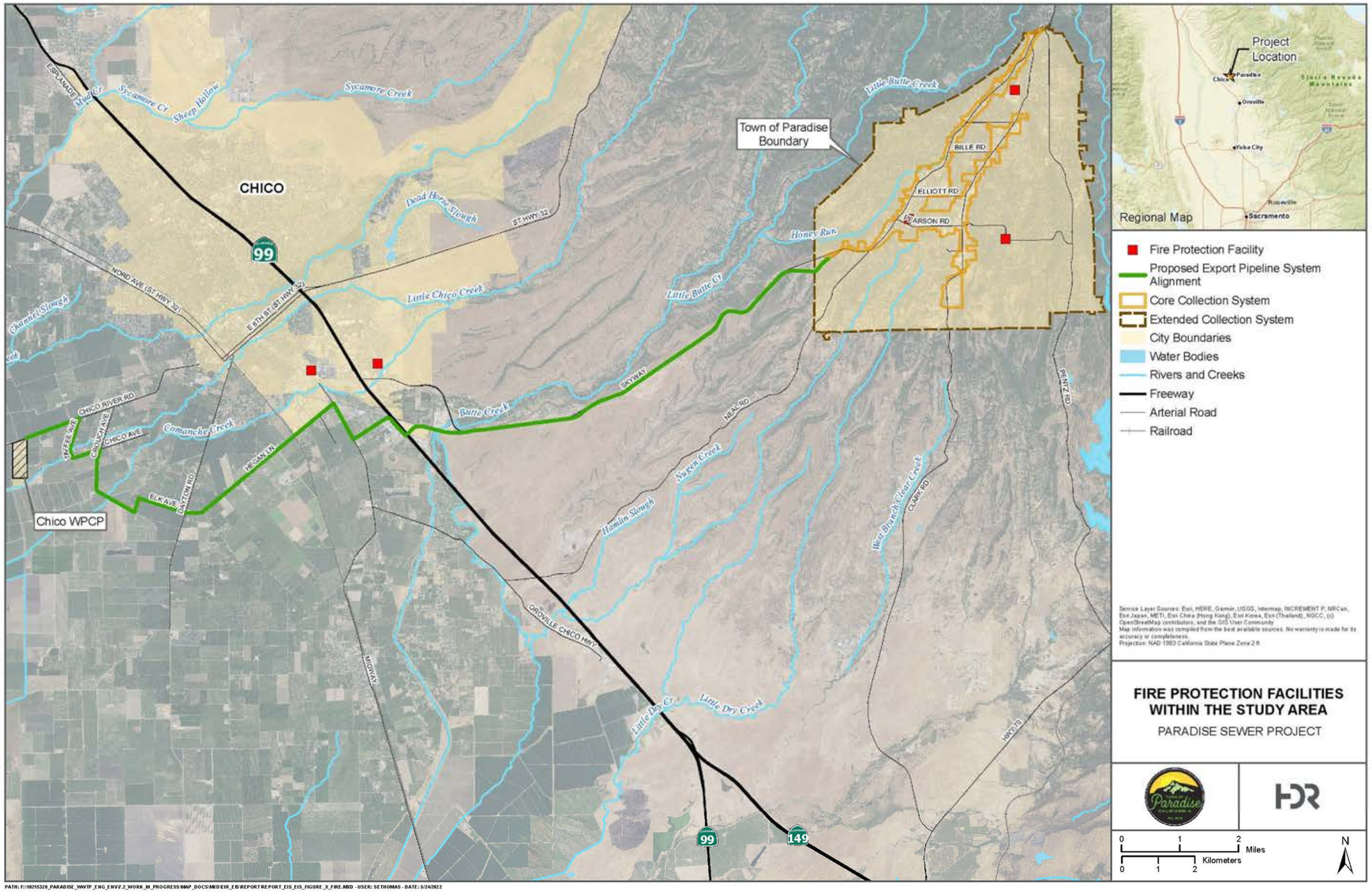

Figure 3.14-1. Fire Protection Facilities within the Study Area

The PFD/CALFIRE operates two fire stations (Town of Paradise 2022e). The closest PFD/CALFIRE station to the Proposed Project is Station 81, which is located at 767 Birch Street in Paradise. Station 81 is located within the boundaries of the Core Collection System (Google Earth 2022). Station 81 houses the administrative offices of the Fire Chief, Battalion Chief, Fire Prevention Inspector, and Administrative Assistant (Town of Paradise 2022e).

Chico Fire Department

The CFD, as known as the City of Chico Fire-Rescue, provides fire protection and emergency medical services in Chico. The CFD also provides first response to emergencies in the surrounding unincorporated Butte County through the Chico Urban Area Fire and Rescue Agreement. The CFD operates under the command of the Fire Chief and staffs 60 full-time personnel, 57 of which are uniformed positions (City of Chico 2022a). There are currently eight active volunteer firefighters in the CFD (City of Chico 2022a). In 2018, CFD units arrived on scene within 8 minutes and 20 seconds 90 percent of the time and met its benchmark response time of 6 minutes and 30 seconds 68.7 percent of the time (CFD 2018).

The Chico FD currently operates out of four stations (City of Chico 2022b). The closest CFD fire station to the Proposed Project is Station 4, which is located at 2405 Notre Dame Boulevard in Chico. Station 4 is located approximately 0.9 miles from the proposed pipeline alignment (Google Earth 2022). Station 4 houses a type 3 engine that is specifically designed to fight fires in the urban wildland interface (City of Chico 2022b).

3.14.1.2 Police Protection

Police protection and law enforcement services in the study area are provided by the Butte County Sheriff's Office (BCSO), CHP, Paradise Police Department (PPD), and Chico Police Department (CPD). Figure 3.14-2 provides an overview of the location of police protection facilities within the study area.

Butte County Sheriff's Office

The BSCO serves all citizens of Butte County by providing a mix of public safety and public service functions, including coroner services, civil services, court security, and corrections. The BCSO maintains mutual aid agreements with the CHP and the municipal police departments of Oroville, Chico, Gridley, Biggs, and Paradise (Butte County 2010). The BSCO is responsible for operating the Butte County Jail, which is utilized by all law enforcement agencies within the county (Butte County 2010).

The BSCO has its main office in Oroville, with substations in Chico and Magalia (Butte County 2022c). The closest BSCO station to the Proposed Project is the Chico substation, which is located at 479 East Park Avenue. The Chico substation is located approximately 0.4 miles from the proposed pipeline alignment (Google Earth 2022).

California Highway Patrol

The CHP provides law enforcement services, primarily traffic control, for State roads and roads in the unincorporated portions of the county. These services include traffic control, accident investigation, and licensing of vehicles. The CHP has a mutual aid agreement with the BCSO and will respond when requested by the Sheriff.

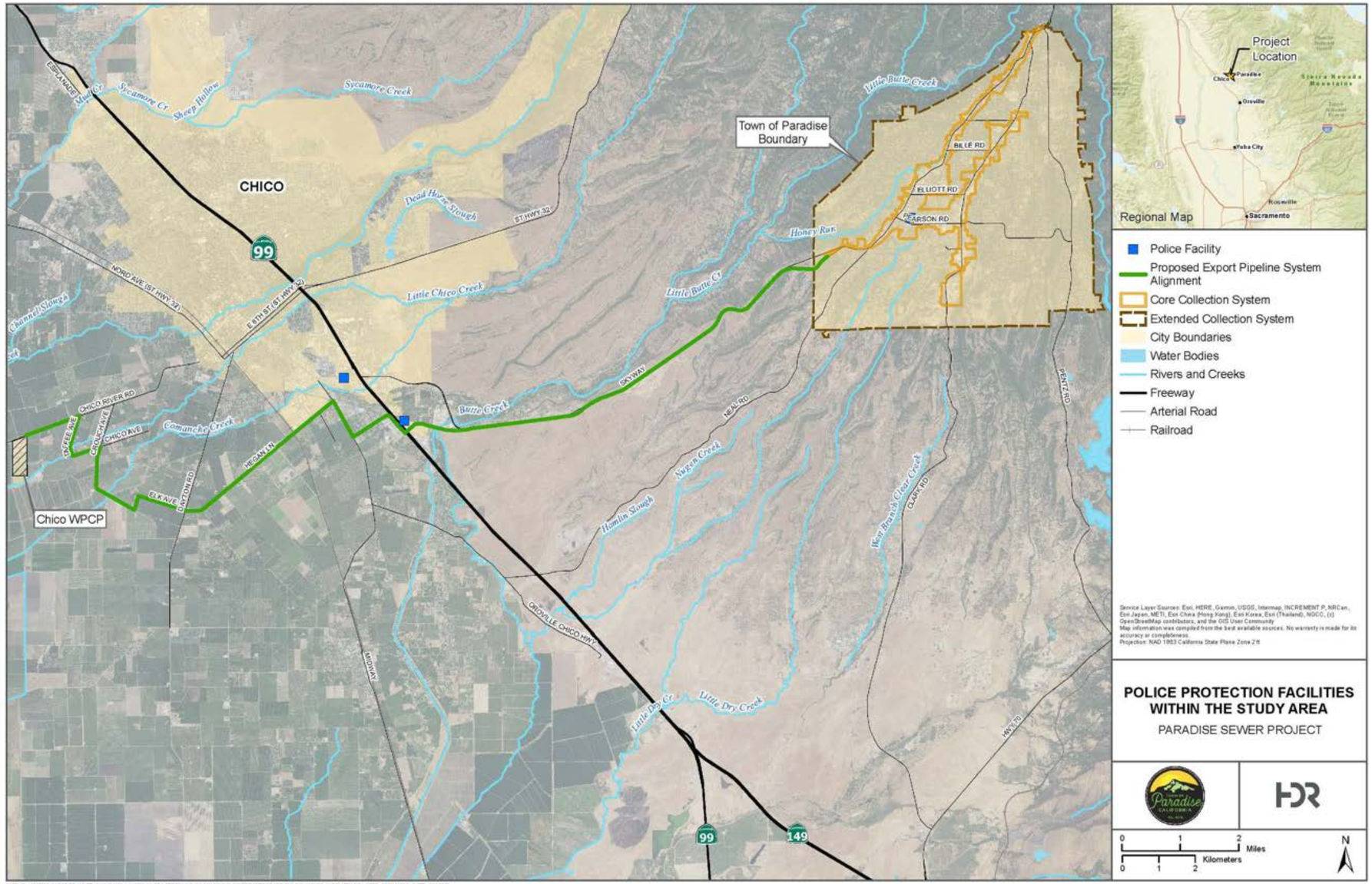

Figure 3.14-2. Police Protection Facilities within the Study Area

The CHP has two offices that serve Butte County: one in Chico and one in Oroville. The closest CHP office to the Proposed Project is the Chico office, which is located at 413 Southgate Avenue. The Chico office is located approximately 1 mile from the proposed pipeline alignment (Google Earth 2022). The Chico office is comprised of 29 sworn officers, 23 public safety dispatchers, and five civilian members (CHP 2022).

Paradise Police Department

The PPD has provided law enforcement services to the Town of Paradise since 1980, when it took law enforcement responsibility for the area from BCSO (Town of Paradise and Quad Consultants 2008). The PPD includes five units: Administration, Patrol, Investigations, Communication/Records, and Animal Control. The PPD currently has 23 employees (Town of Paradise 2022f). The PPD's station is located at 5595 Black Olive Drive in Paradise, which is located within the boundaries of the Core Collection System (Google Earth 2022).

Chico Police Department

The CPD provides law enforcement services to the City of Chico. If requested by the BCSO or the CHP, the CPD may provide assistance in the surrounding unincorporated areas on a case-by-case basis. The CPD is comprised of 168 employees, 108 of which are sworn officers (CPD 2021). Additionally, the CPD is served by 100 police volunteers (CPD 2021). CPD personnel are organized into two divisions: Operations and Support. The Operation Division comprises of the Patrol Section and Animal Shelter/Control Section. The Support Division comprises of the Criminal Investigations Section, Communications and Support Operations Section, and Administration Section.

The CPD headquarters are located at 1460 Humboldt Road in Chico, which is located approximately 1.9 miles from the proposed pipeline alignment (Google Earth 2022).

3.14.1.3 Schools

Within Butte County, 14 local school districts provide elementary and secondary education (Butte County 2010). The study area is served by the Paradise Unified School District (PUSD) and Chico Unified School District (CUSD). Figure 3.14-3 provides an overview of the location of schools within the study area.

Paradise Unified School District

PUSD serves students in Paradise and Magalia. PUSD operates seven schools: three elementary schools (transitional kindergarten through grade six), one junior high school (grades seven and eight), two high schools (grades nine through 12), and one online learning academy (grades nine through 12) (PUSD 2022). PUSD enrollment in 2018-19 was 3,401 (PUSD 2021). Enrollment at PUSD has declined since then due to the 2018 Camp Fire. As of November 2021, enrollment at PUSD is 1,484 (PUSD 2021).

The closest PUSD schools to the Proposed Project are Paradise Junior High School, which is located at 5657 Recreation Drive, and Paradise High School, which is located at 5911 Maxwell Drive. The Paradise Junior High School and Paradise High School are located within the boundaries of the Core Collection System (Google Earth 2022).

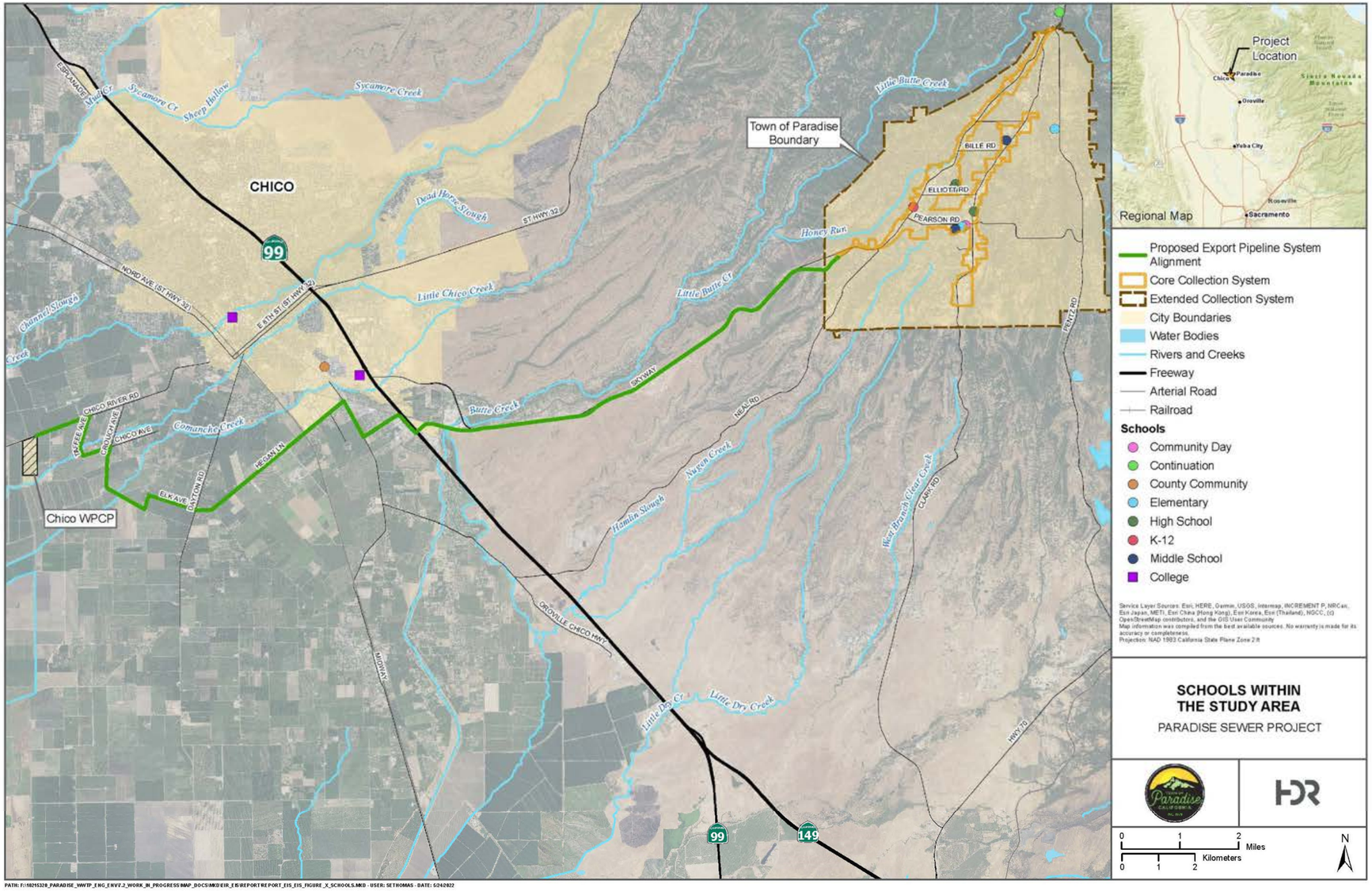

Figure 3.14-3. Schools within the Study Area

Chico Unified School District

The City of Chico is served by the CUSD, which serves students from preschool through grade 12. CUSD encompasses 23 schools: 12 elementary schools, three junior high schools, two high schools, one continuation school, one community day school, one opportunity school one independent study school one special services school, one online learning academy, and four preschool programs (CUSD 2022). Total enrollment across CUSD schools in 2018-19 was 11,854 (CUSD 2019). After the 2018 Camp Fire, CUSD absorbed 229 additional students displaced from Paradise (CUSD 2019).

The closest CUSD school to the Proposed Project is the Chapman Elementary School, which is located at 1071 East 16th Street in Chico. The Chapman Elementary School is located approximately 1.2 miles from the proposed pipeline alignment (Google Earth 2022).

3.14.1.4 Libraries

The study area is served by the Butte County Library.

Butte County Library

The Butte County Library provides public library services in the county. The Butte County Library provides library services to all county residents through a consolidated operation from its headquarters in Oroville and branches in Biggs, Chico, Durham, Gridley and Paradise (Butte County 2022d). The closest Butte County Library branch to the Proposed Project is the Paradise branch, which is located at 5922 Clark Road. The Paradise branch is located within the boundaries of the Core Collection System (Google Earth 2022).

3.14.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on public services. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.14.2.1 Federal

No identified federal laws, regulations, orders, policies, or plans regarding public services are relevant to the Proposed Project.

3.14.2.2 State

California Occupational Safety and Health Administration

In accordance with the California Code of Regulations, Title 8, Sections 1270 "Fire Prevention" and 6773 "Fire Protection and Fire Fighting Equipment," the California Occupational Safety and Health Administration has established minimum standards for fire suppression and emergency medical services. The standards include guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

The Proposed Project will be held to the standards established by the California Occupational Safety and Health Administration.

Uniform Fire Code

The Uniform Fire Code (California Code of Regulations, Title 24, Part 9) contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic sprinkler systems, fire alarm systems, fire and explosion hazards safety, hazardous materials storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The Uniform Fire Code also contains specialized technical regulations related to fire and life safety.

The Proposed Project will be held to the regulations set forth in the Uniform Fire Code.

California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code. Regulations address building standards, fire protection and notification systems, fire protection devices such as extinguishers, smoke alarms, high-rise buildings, childcare facility standards, and fire suppression training, among other topics.

The Proposed Project will be held to the regulations set forth in the Health and Safety Code.

3.14.2.3 Regional and Local

Town of Paradise General Plan

The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) includes the following policies related to public services that are relevant to the Proposed Project:

- **Policy LUP-12**: The character of future development should be compatible with the Town's service delivery abilities and will not result in service level declines.
- **Policy LUP-13**: The Town will attempt to assure that the rate and character of growth is commensurate with, or does not exceed the current levels of public services, and will attempt to assure that municipal services can be provided to areas planned for annexation and development.
- **Policy LUP-14**: Growth and land use development should be linked to the availability of public services and facilities, and to the degree of overall infrastructure and environmental constraints affecting property in the Town.
- **Policy LUP-20**: New land use development will not cause the levels of police and fire protection to fall below the service levels established by this plan.

The Proposed Project will be held to the policies in the *Town of Paradise General Plan*.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following policies related to public services that are relevant to the Proposed Project:

- **Policy PUB-P4.1**: Review of development proposals will be coordinated with school districts to determine and plan for capacity issues over time.
- **Policy PUB-P4.2**: Review of development proposals will be coordinated with school districts regarding the location and design of new schools.

- **Policy PUB-P4.4**: Infrastructure development projects will be coordinated to minimize the cost to the public of building needed schools.
- **Policy PUB-P4.5**: Information on projected population growth and development patterns will be provided to school districts to facilitate adequate school facilities.
- **Policy PUB-P4.7**: New development projects will be approved only if the County and the applicable School District finds that existing or planned schools will be adequate to serve it.

The Proposed Project will be held to the policies in the *Butte County General Plan 2030*.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following policies related to public services that are relevant to the Proposed Project.

- **Policy S-4.1, Fire Safety Staffing**: Maintain adequate fire suppression and prevention staffing levels.
- **Policy S-4.2, Interagency Coordination**: Continue to maintain interagency relationships to maximize fire protection services and support programs that reduce fire hazards.
- **Policy S-5.1, Police Services**: Continue to provide fundamental police services based upon rapid response to emergencies and response, control and intervention in conduct that threatens life and property.
- **Policy S-5.4, Collaboration and Coordination**: Maintain strong relationships with local and state law enforcement agencies and participate in joint disaster preparedness planning.
- **Policy PPFS-3.1, CUSD Coordination**: Support Chico Unified School District's efforts to provide school sites and facilities that meet the educational needs of the community.

The Proposed Project will be held to the policies in the *Chico 2030 General Plan*.

3.14.3 Method of Analysis

This section describes the methods used to analyze impact on public services within the study area.

3.14.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on public services if it would:

- **Impact PS-1:** 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 following public services:

  (a) Fire Protection
  (b) Police Protection
  (c) Schools
  (d) Other Public Facilities

3.14.3.2 Approach to Analysis

Construction, Operation, and Maintenance

Impacts on public services were identified qualitatively based on the Proposed Project's potential to cause increased use or expansion of available public facilities, such as fire protection facilities, police protection facilities, schools, and libraries. For the purposes of this analysis, information was collected on public services using the following sources:

- *Butte County General Plan 2030 EIR* (Butte County 2010)
- Town of Paradise website (Town of Paradise 2022e, 2022f)
- Butte County website (Butte County 2022a, 2022b, 2022c, 2022d)
- City of Chico website (City of Chico 2022a, 2022b)
- *CFD Bi-Annual Report* (CFD 2018)
- CHP website (CHP 2022)
- *CPD Policy Manual* (CPD 2021)
- PUSD website and fiscal year 2021-22 budget (PUSD 2021, 2022)
- CUSD website and facilities master plan (CUSD 2019, 2022)

The analysis of environmental effects focuses on foreseeable changes to public services in the context of effects listed in Section 3.14.3.1, CEQA Significance Criteria. The analysis considers the Core Collection System, Export Pipeline System, and Extended Collection System, as appropriate, in the context of construction, operation, and maintenance.

The following methods were used to evaluate the potential impacts from construction, operation, and maintenance of the Proposed Project on public services:

- Use of GIS data to locate the existing public facilities (i.e., fire protection facilities, police protection facilities, schools, and libraries) within the study area.
- Use of Google Earth and GIS data to measure the distance of public facilities from the Proposed Project.
- Analysis of construction methods, ROW, and staging areas.
- Analysis of the Project's consistency with the requirements of all plans, policies, and regulations listed in Section 0, Regulatory Framework.

3.14.4 Impact Analysis

This section includes an analysis of the Proposed Project's potential to result in adverse physical impacts associated with the provision of new or physically altered governmental facilities; or result in the need for new or physically altered governmental facilities in order to maintain acceptable service ratios, response times or other performance objectives.

3.14.4.1 Impact PS-1: 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 following public services:

(a) Fire Protection (Less than Significant Impact with Mitigation Incorporated)

As presented in Section 3.14.1, Environmental Setting, fire protection services in the study area are provided by the BCFD/CALFIRE, PFD/CALFIRE, and CFD. The nearest fire station to the Proposed Project is PFD/CALFIRE's Station 8, which is located at 767 Birch Street in Paradise, within the boundaries of the Core Collection System.

Construction

As described in Section 0, Population and Housing, construction workers would likely be drawn from the existing workforce within Butte County but would also likely draw from outside of the Town and County. It is anticipated that some of the construction workers might choose to permanently relocate to the Town, which would be in support of the Town's planned regrowth. Fire protection services within the Town were sized to meet the demand for services by the Town pre-fire and would be anticipated to rebuild to previous conditions on par with the returning population. Growth beyond pre-fire conditions would be consistent with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008).

Although PFD/CALFIRE's Station 8 would not be directly impacted during construction, impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary lane closures and movement of construction equipment on local roads. This is considered a potentially significant impact.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Proposed Project to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of mitigation measure **MM-HAZ-6**, impacts related to emergency vehicle access during construction would be less than significant.

Operation and Maintenance

The Proposed Project would be designed and constructed in compliance with all applicable fire codes and public safety standards. During operation and maintenance, the Proposed Project would not result in any permanent impacts to the fire stations within the study area. Increases in housing and businesses that would be supported by operation of the Proposed Project would primarily consist of *regrowth* and *repopulation* toward pre-fire levels. As mentioned above, growth beyond pre-fire conditions would be in alignment with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008). Therefore, operation and maintenance of the Proposed Project would have a less-than-significant impact on fire protection services.

Mitigation. No mitigation required.

(b) Police Protection (Less than Significant Impact with Mitigation Incorporated)

As presented in Section 3.14.1, Environmental Setting, police protection services in the study area are provided by the BCSO, CHP, PPD, and CPD. The nearest police station to the Proposed Project is PPD's station, which is located at 5595 Black Olive Drive in Paradise, within the boundaries of the Core Collection System.

Construction

As described in Section 0, Population and Housing, construction workers would likely be drawn from the existing workforce within Butte County but would also likely draw from outside of the Town and County. It is anticipated that some of the construction workers might choose to permanently relocate to the Town, which would be in support of the Town's planned regrowth. Police protection services within the Town were sized to meet the demand for services by the Town pre-fire and would be anticipated to rebuild to previous conditions on par with the returning population. Growth beyond pre-fire conditions would be consistent with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008).

Although PPD's station would not be directly impacted during construction, impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary lane closures and movement of construction equipment on local roads. This is considered a potentially significant impact.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Proposed Project to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 0, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of mitigation measure **MM-HAZ-6**, impacts related to emergency vehicle access during construction would be less than significant.

Operation and Maintenance

The Proposed Project would be designed and constructed in compliance with all applicable public safety standards. During operation and maintenance, the Proposed Project would not result in any permanent impacts to the police stations within the study area. Increases in housing and businesses that would be supported by operation of the Proposed Project would primarily consist of *regrowth* and *repopulation* toward pre-fire levels. As mentioned above, growth beyond pre-fire conditions would be in alignment with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008). Therefore, operation and maintenance of the Proposed Project would have a less-than-significant impact on police protection services.

Mitigation. No mitigation required.

(c) Schools (Less than Significant Impact with Mitigation Incorporated)

As presented in Section 3.14.1, Environmental Setting, the study area is served by the PUSD and CUSD. The nearest schools to the Proposed Project are PUSD's schools: Paradise Junior High School (located at 5657 Recreation Drive) and Paradise High School (located at 5911 Maxwell Drive). Both schools are located within the boundaries of the Core Collection System.

Construction

As described in Section 0, Population and Housing, construction workers would likely be drawn from the existing workforce within Butte County but would also likely draw from outside of the Town and County. It is anticipated that some of the construction workers might choose to permanently relocate to the Town, which would be in support of the Town's planned regrowth. The school district within the Town was sized to meet the demand for services by the Town pre-fire and would be anticipated to rebuild to previous conditions on par with the returning population. Growth beyond pre-fire conditions would be consistent with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008).

Although the Paradise Junior High School and Paradise High School would not be directly impacted during construction, impacts may occur related to emergency vehicle access to the schools due to temporary lane closures and movement of construction equipment on local roads. This is considered a potentially significant impact.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Proposed Project to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 0, Hazards and Hazardous Materials for description)

Significance after Mitigation. With the implementation of mitigation measure **MM-HAZ-6**, impacts related to emergency vehicle access to schools during construction would be less than significant.

Operation and Maintenance

During operation and maintenance, the Proposed Project would not result in any permanent impacts to the schools within the study area. Increases in population that would be supported by operation of the Proposed Project would primarily consist of *regrowth* and *repopulation* toward pre-fire levels. As mentioned above, growth beyond pre-fire conditions would be in alignment with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008). Therefore, operation and maintenance of the Proposed Project would have a less-than-significant impact on schools.

Mitigation. No mitigation required.

(d) Other Public Facilities (Less than Significant Impact with Mitigation Incorporated)

As presented in Section 3.14.1, Environmental Setting, library services in the study area are provided by the Butte County Library. The nearest Butte County Library branch to the Proposed Project is the Paradise branch, which is located at 5922 Clark Road, within the boundaries of the Core Collection System.

Construction

As described in Section 0, Population and Housing, construction workers would likely be drawn from the existing workforce within Butte County but would also likely draw from outside of the Town and County. It is anticipated that some of the construction workers might choose to permanently relocate to the Town, which would be in support of the Town's planned regrowth. Other public facilities within the Town were able to meet the demand for services by the Town pre-fire and would be anticipated to rebuild to previous conditions on par with the returning population. Growth beyond pre-fire conditions would be consistent with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008).

Although the Butte County Library's Paradise Branch would not be directly impacted during construction, impacts may occur related to emergency vehicle access to the library due to temporary lane closures and movement of construction equipment on local roads. This is considered a potentially significant impact.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Proposed Project to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 0, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of mitigation measure **MM-HAZ-6**, impacts related to emergency vehicle access to other public facilities, such as libraries, during construction would be less than significant.

Operation and Maintenance

During operation and maintenance, the Proposed Project would not result in any permanent impacts to other public facilities, such as libraries, within the study area. Increases in population that would be supported by operation of the Proposed Project would primarily consist of *regrowth* and *repopulation* toward pre-fire levels. As mentioned above, growth beyond pre-fire conditions would be in alignment with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008). Therefore, operation and maintenance of the Proposed Project would have a less-than-significant impact on other public facilities.

Mitigation. No mitigation required.

3.14.5 Impacts Summary

Table 3.14-1 summarizes the public services impacts of the Proposed Project.

Table 3.14-1. Public Services Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact PS-1(a): Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: Fire Protection	SI	MM-HAZ-6	S/M
Impact PS-1(b): 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 following public services: Police Protection	SI	MM-HAZ-6	S/M
Impact PS-1(c): 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 following public services: Schools	SI	MM-HAZ-6	S/M
Impact PS-1(d): 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 following public services: Other Public Facilities	SI	MM-HAZ-6	S/M

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

3.14.6 References

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3.15 Recreation

This section describes the environmental setting and regulatory framework for recreational activities in the study area, including land and water based recreational activities such as hiking, camping, picnicking, fishing, wildlife viewing, bicycling, and powered and non-powered boating. This section also identifies direct and indirect impacts of the Proposed Project during construction, operation, and maintenance on recreational facilities. The study area for recreation includes parks, trails, and other recreational facilities in Butte County because recreation is managed on a regional level; however, particular focus was given to those recreational facilities within a 2-mile radius of the Proposed Project. A 2-mile radius was chosen to consider other recreational facilities available for use in the event of disturbance to recreation from the Proposed Project and was determined to be a reasonable distance to travel for alternative recreation options considering travel time and convenience for the local public.

3.15.1 Environmental Setting

Recreational facilities within a 2-mile radius of the study area are presented in Table 3.15-1 and shown in Figure 3.15-1. As shown in Figure 3.15-1, recreational zonings are adjacent to the ROW where the Core Collection System, Extended Collection System, and Export Pipeline System would be constructed. Within the Town, The Terry Ashe Recreation Center and Paradise Community Park (also referred to as Paradise Park) adjoin the Core Collection System construction footprint. The Tuscan Ridge Club adjoins the Export Pipeline System along Skyway.

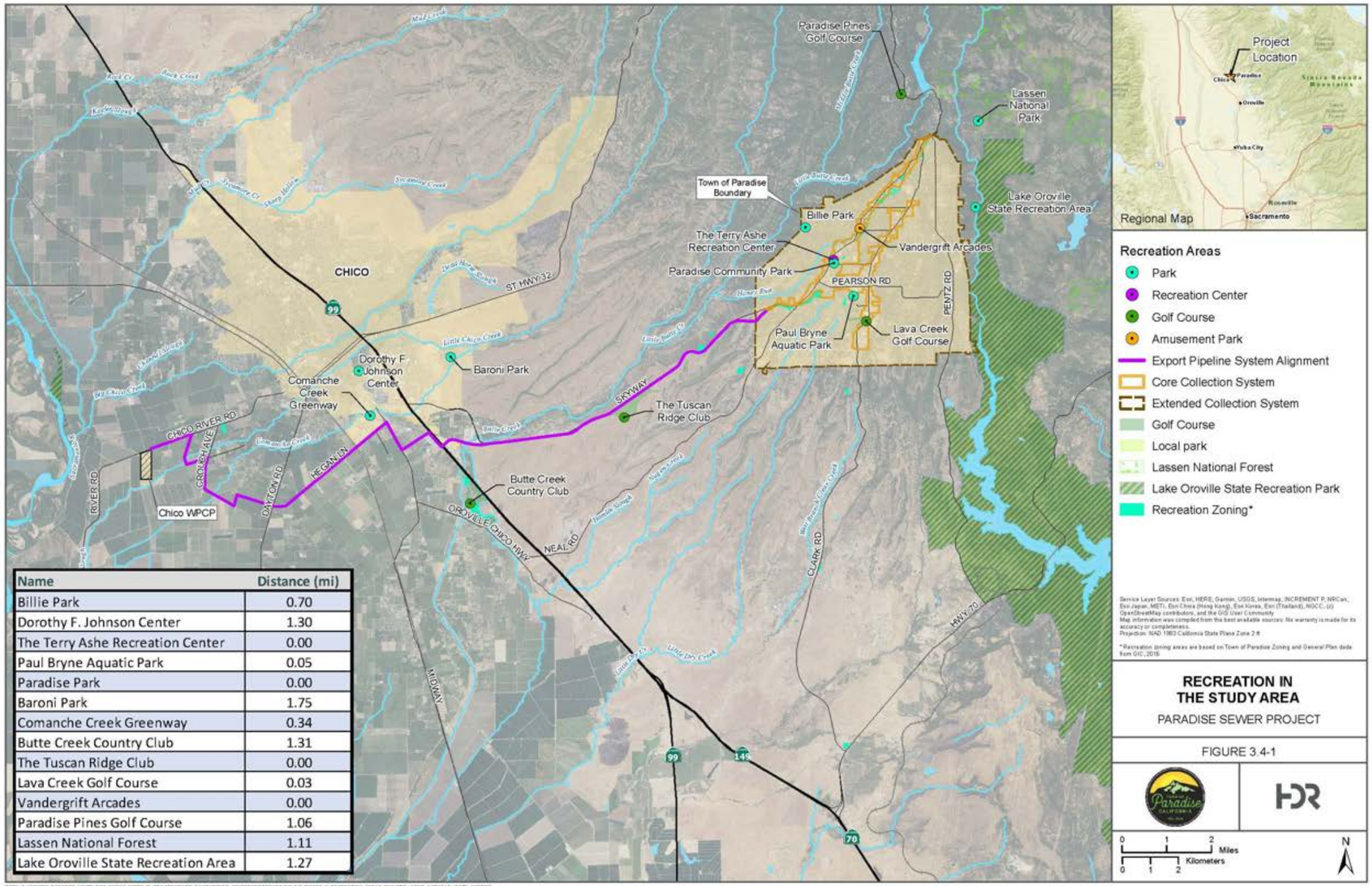
3.15.1.1 Recreation and Park Districts

There are 618 acres of parkland in unincorporated Butte County, which serves a population of approximately 83,900 people. The five Butte County municipalities (Chico, Paradise, Oroville, Briggs, and Gridley) and five recreation and park districts maintain many of the parks in Butte County. The five recreation and park districts include Chico Area Recreation and Park District (CARD), Durham Recreation and Park District, Feather River Recreation and Park District, Paradise Recreation and Park District (PRPD), and Richvale Recreation and Park District. These recreation and park districts encompass most of Butte County's land area and operate as independent districts, which means that the districts are governed by a board of directors elected by voters in that district (Butte County 2012). Other agencies and municipalities with jurisdiction over the parks and recreational facilities within 10 miles of the study area include California Department of Parks and Recreation, City of Sacramento, and Glenn County.

Table 3.15-1. Parks and Recreation Centers within 2 miles of the Study Area

Facility Name	Distance and Direction to Study Area	Jurisdiction or Owner	Features	Activities/Uses
Baroni Park	1.75 miles northeast	CARD	7.3-acre neighborhood park including a multi-use open turf play field, playground, basketball court, walking path, picnic tables, and practice disc golf baskets.	Playground, sports and recreation, walking, jogging, picnicking
Dorothy F. Johnson Center	1.30 miles northwest	CARD	6,375-square foot facility including an indoor gym, computer center, meeting rooms, toddler classrooms, office space, and kitchen.	Recreational programming and facility rentals
Billie Park	0.70 miles northeast	PRPD	Redwood grove, the Counselor's Circle, and group barbeque area.	Park and outdoor event space
The Terry Ashe Recreation Center	Adjoining	PRPD	Recreation center including a gazebo, large room, kitchen, dance floor, sound system, and lighting.	Recreation and events center
Paradise Park	Adjoining	Town of Paradise	Accessible playground, splash pad, beach volleyball courts, community stage, and dog parks.	Accessible playground, volleyball, dog park, community stage
Paradise Aquatic Park (Paul Bryne Aquatic Park)	0.05 mile southeast	PRPD	Kid's fishing pond, playground, family picnic area, arbor, public pool, rotary grove picnic area for up to 150 people, and sand volleyball court.	General recreation, swimming and barbeque area
Butte Creek Country Club	1.31 mile south	Private owner	18-hole golf course, driving range, putting green, and restaurant.	Golf course
Tuscan Ridge Club	Adjoining	Semi-private owner	18-hole golf course	Golf course
Lava Creek Golf Course	0.03 mile southeast	Public (Paradise)	9-hole and 18-basket disc golf course.	Golf course
Lassen National Forest	1.11 mile northeast	USDA Forest Service	Campgrounds, RV dump stations, day use areas, trails, picnic areas, and lookout areas.	Camping, picnicking, hiking, kayaking, fishing, RVing

Source: Butte County 2022e; Butte Creek Country Club 2022; USDA Forest Service 2022; CARD 2022; PRPD 2021; Golf Pass 2022



Name	Distance (mi)
Billie Park	0.70
Dorothy F. Johnson Center	1.30
The Terry Ashe Recreation Center	0.00
Paul Bryne Aquatic Park	0.05
Paradise Park	0.00
Baroni Park	1.75
Comanche Creek Greenway	0.34
Butte Creek Country Club	1.31
The Tuscan Ridge Club	0.00
Lava Creek Golf Course	0.03
Vandergrift Arcades	0.00
Paradise Pines Golf Course	1.06
Lassen National Forest	1.11
Lake Oroville State Recreation Area	1.27

Figure 3.15-1. Recreation in the Study Area

The majority of recreational resources within a 2-mile radius of the study area are managed by private owners, CARD and PRPD. CARD provides recreation opportunities to the greater Chico community and maintains several parks. CARD is in the northern portion of the Sacramento River Valley, approximately 15 miles east of the Sacramento River and 90 miles north of Sacramento. The boundaries of CARD encompass approximately 225 square miles and extend from the Butte-Tehama County line on the north to the intersection of Dayton Road and Chico Street on the south; and from Muir Avenue on the west to approximately the east side of Upper Bidwell Park. Parks maintained by CARD include facilities such as playgrounds, softball fields, baseball fields, soccer fields, basketball and tennis courts, and gentle walking trails (CARD 2021).

PRPD is an independent special district that serves more than 50,000 people in Northern California's Sierra Nevada foothills. PRPD covers approximately 165 square miles and encompasses the Paradise, Paradise Pines, Butte Creek Canyon, and Concow areas. PRPD maintains approximately 358 acres of natural open space and 73 acres of developed park land. Park facilities maintained by PRPD include swimming pools, a fishing pond, play fields, horse arena, archery range, walking trails, ropes course, tennis courts, playgrounds, picnic areas, open use areas, and a recreation center (PRPD 2021).

3.15.1.2 Water-Based Recreation

The study area is located within the California Department of Parks and Recreation Northern Buttes District. The west branch of the Feather River, located east of the study area, is connected to Lake Oroville State Recreation Area, which is approximately 1.27 miles southeast of the Proposed Project(see Figure 3.15-1). Recreational facilities in the west branch of the Feather River include Nelson Bar, Lime Saddle Campground, and Lake Oroville Lime Saddle Marina. Lime Saddle Campground consists of 44 car/tent campsites and 16 RV campsites with hook-ups. The campground also features showers, several gray water sumps, and an RV dump station. The Lime Saddle Day Use Area and Boat Ramp features a picnic area and boat ramp with approximately 367 parking spaces. The Lake Oroville Lime Saddle Marina offers houseboat rentals, watercraft rentals, and camping (DWR 2021). The features, activities and uses of Lake Oroville State Recreation Area are summarized in **Error! Not a valid bookmark self-reference.**.

Table 3.15-2. Water-Based Recreation within 2 miles of the Study Area

Facility Name	Distance and Direction to Study Area	Jurisdiction or Owner	Features	Activities/Uses
Lake Oroville State Recreation Area	1.27 miles southeast	California Department of Parks and Recreation	Bidwell Marina, Bidwell Canyon Campground, Lime Saddle Campground, Lime Saddle Marina, Lime Saddle Day Use/Lake Oroville Marina, Loafer Creek Campground, boating ramps and rentals, overnight facilities, bike trails, hiking trails, horseback riding trails, picnic areas, learning/visitor center, beach area, restrooms, showers, campsites, RV sites and hookups, museums.	Sail and power boating, water skiing, camping, boat-in camping, floating campsites, horse camping, fishing, biking, hiking, horseback riding, picnicking, scuba diving, snorkeling, swimming, nature and wildlife viewing, museums, family programs

Source: California Department of Parks and Recreation 2022; DWR 2021

3.15.1.3 Bike and Recreational Trails in Butte County

Butte County does not have a formal or organized system of trails; however, federal and state agencies and park and recreation districts maintain a number of developed recreational trails in the county. Recreational trails in Butte County are provided in Table 3.15-3. Butte County also operates a system of multi-use trails and Class I, II, and III bike routes. Within the study area there is a bike trail along Midway. Hegan Lane is also considered a bicycle-friendly road.

Table 3.15-3. Recreational Trails within 2 miles of the Study Area

Trail	Description
Comanche Creek Greenway	The greenway is located approximately 0.34 mile west of the study area. The greenway is owned by the City of Chico and is located at the intersection of Hegan Lane and Midway. Comanche Creek Greenway consists of 20 acres along Comanche Creek between Midway and the Union Pacific Railroad line. Currently, the land is undeveloped and public access to the site is restricted.
Chico Recreation and Park District Trail System	The CRPD manages a system of trails that serve the Chico area.
Yellowstone Kelly Heritage Trailway	The Town of Paradise owns and maintains a five-mile Class I pathway which primarily parallels Skyway between Neal Road and Pentz Road. This trailway is open to pedestrians and bicyclists alike.

Source: Butte County 2012

3.15.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on recreation. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.15.2.1 Federal

No identified federal laws, regulations, orders, policies, or plans regarding recreation are relevant to the Proposed Project.

3.15.2.2 State

California Department of Parks and Recreation Rules and Regulations

The California Department of Parks and Recreation has established rules and regulations to protect park areas for the enjoyment of future generations and to keep park visitors safe. Topics covered in the rules and regulations include protection of natural scenery, plants and animal life; loaded firearms and hunting; dead and down wood; fires; animals; noise (engine driven electric generators); all vehicle travel; campsite use; refuse; smoking; drones; and cleanup responsibilities. Recreation within the study area is under the jurisdiction of the California Department of Parks and Recreation and is therefore subject to these regulations.

3.15.2.3 Regional and Local

Vegetative Fuels Management Plan

The *Final Vegetative Fuels Management Plan for Parks, Greenways, Preserves, and Open Spaces* (City of Chico Parks Department 2021) is intended to protect lives and property and enhance the

natural resources in Chico and covers all land owned and managed by the City of Chico, including parks, greenways, and open spaces. A key component of the plan is the identification of high fire hazard areas in greatest need of treatment, description of how fires can be managed, and development of policies and actions focused on reducing harmful impacts of wildfire in the community (City of Chico Parks Department 2021).

The Proposed Project will be subject to compliance with the Vegetative Fuels Management Plan for any work within applicable recreational areas of Chico.

Butte County Bikeway Master Plan

The *2011 Butte County Bikeway Master Plan* (Butte County 2011) updates the Countywide Bikeway Master Plan originally adopted in 1998. The plan is intended to address safety and connectivity between the local communities and within rural areas of Butte County. The plan will also assist Butte County in its efforts to safely and equitably provide contiguous bicycle facilities in the future and implement roadway projects that are bicycle friendly throughout the unincorporated areas. The Bikeway Master Plan encompasses bikeways that are within the study area.

The Proposed Project will be held to the standards in this plan.

Town of Paradise General Plan

The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) does not include any recreational goals or policies that are relevant to the Proposed Project.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following policies related to recreation that are relevant to the Proposed Project:

- **Policy PUB-P6.1**: Review of development proposals shall be coordinated with public agencies in order to designate sites for new parks and recreation facilities.
- **Policy PUB-P8.7**: New development projects should incorporate multi-use trails and connections to existing trail networks.

The Proposed Project will be held to the policies in the *Butte County General Plan 2030*.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) does not include any recreational goals or policies that are relevant to the Proposed Project.

3.15.3 Method of Analysis

This section describes the methods used to analyze recreation within the study area.

3.15.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on recreation if it would:

- **Impact REC-1:** 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
- **Impact REC-2:** Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment

3.15.3.2 Approach to Analysis

Construction, Operation and Maintenance

Impacts on recreation were identified qualitatively based on the Proposed Project's potential to cause increased use or expansion of available recreation facilities to the extent at which substantial physical deterioration could occur.

For the purposes of this analysis, information was collected on recreation facilities using the following sources:

- CARD website (CARD 2021)
- PRPD website (PRPD 2021)
- California Department of Parks and Recreation website (California Department of Parks and Recreation 2022)
- City of Chico website (City of Chico 2022c)
- Butte County General Plan 2030 (Butte County 2012)

The analysis of environmental effects focuses on foreseeable changes to recreation facilities in the context of effects listed in Section 3.15.3.1, CEQA Significance Criteria. The analysis considers the Core Collection System, Export Pipeline System, and Extended Collection System, as appropriate, in the context of construction, operation, and maintenance.

The following methods were used to evaluate the potential impacts from construction, operation, and maintenance of the Proposed Project on recreation:

- Use of GIS data to locate the existing parks, recreational facilities, trails, and streams within the study area.
- Use of Google Earth and GIS data to measure the distance of parks and recreational facilities from the Proposed Project.
- Analysis of construction methods, ROW, and staging areas.
- Analysis of the Project's consistency with the requirements of all plans, policies, and regulations listed in Section 3.15.2, Regulatory Framework.
- Analysis of operations and maintenance methods including periodic inspection of the Core Collection System, Extended Collection System, Export Pipeline System and associated instrumentation, and flow data sampling.

3.15.4 Impact Analysis

This section describes the potential environmental impacts on recreation facilities that could result from implementing the Proposed Project. Because construction of the Proposed Project will primarily occur

within the ROW, the impact analysis for recreation focuses on the potential for temporarily impeding access to recreational facilities or trails in the study area during construction.

Disturbed areas would be restored to their original conditions and operations and maintenance efforts would be limited to proposed above-ground features which would not be located within a recreational facility. As discussed in Section 2.8 Proposed Operation and Maintenance, while the Core Collection System, Extended Collection System, and Export Pipeline System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break. Procedures to address a pipeline break are addressed in Section 2.8 and these activities could temporarily impede access to recreational facilities.

3.15.4.1 Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated (Less than Significant Impact)

Construction

As shown in Figure 3.15-1, recreational zonings are adjacent to the Core Collection System, Extended Collection System, and Export Pipeline System. The Terry Ashe Recreation Center and Paradise Community Park are also adjacent to the Core Collection System construction footprint. The Tuscan Ridge Club is adjacent to the Export Pipeline System along Skyway. Within the study area there is a bike trail along Midway, and Hegan Lane is also considered a bicycle friendly road. Recreational activities and facilities are not present at Comanche Creek, Butte Creek, or Little Chico Creek. Therefore, no water-based recreation would be affected by the Proposed Project.

Construction work would be short-term in any one location and construction would occur primarily within the existing ROW on previously disturbed land. Further, as shown in Figure 2-19, Potential Project Staging Areas, staging areas would be in various locations along the Export Pipeline System alignment, but would not be within a 2-mile radius of recreational areas.

Given that most work would occur in the public ROW, there is potential for bike paths or access to recreation to be temporarily closed or impeded during construction. Full road closures would not occur except during movement of large equipment (Section 2.7.2, Traffic Management and Temporary Construction Road Closures); single lane, temporary closures are proposed during construction. Any road and bike path closures would also be temporary.

Minor increases in recreational use at other available facilities may occur on a short-term basis, but substantial physical deterioration of these facilities is not expected to occur or to be accelerated. Therefore, construction of the Proposed Project would have no impact on other recreational facilities.

Mitigation. No mitigation required.

Operation and Maintenance

Section 2.8, Proposed Operation and Maintenance, describes activities, such as periodic inspections, that would occur during operation and maintenance. These activities would have no influence on the use of parks and recreational facilities in the study area.

Recreational facilities within the Town were sized to meet the pre-fire demand for services by the Town and would be anticipated to rebuild to previous conditions on par with the returning population. Increases in population that would be supported by operation of the Proposed Project would primarily consist of *regrowth* and *repopulation* toward pre-fire levels. Growth beyond pre-fire conditions would be in alignment with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008). Impacts would, therefore, be less than significant.

Mitigation. No mitigation required.

3.15.4.2 Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment (Less than Significant Impact)

Construction

New recreational facilities are not proposed as part of the Project, nor would construction of the Proposed Project cause construction or expansion of existing recreational facilities where it might have an adverse physical effect on the environment. Therefore, there would be no impact to recreational facilities during construction.

Mitigation. No mitigation required.

Operation and Maintenance

Section 2.8, Proposed Operation and Maintenance, describes activities, such as periodic inspections, that would occur during operation and maintenance. These activities would have no influence on the use of parks and recreational facilities in the study area.

Recreational facilities within the Town were sized to meet the demand for services by the Town pre-fire and would be anticipated to rebuild to previous conditions on par with the returning population. Increases in population that would be supported by operation of the Proposed Project would primarily consist of *regrowth* and *repopulation* toward pre-fire levels. Growth beyond pre-fire conditions would be in alignment with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008). Therefore, recreational impacts during operations and maintenance would be less than significant.

Mitigation. No mitigation required.

3.15.5 Impacts Summary

Table 3.15-4 summarizes the recreation impacts of the Proposed Project.

Table 3.15-4. Recreation Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact REC-1: 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	LTS	N/A	LTS
Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment	LTS	N/A	LTS

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

3.15.6 References

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3.16 Transportation

This section describes the environmental setting and regulatory framework for transportation in the study area, and includes a discussion of the circulation system, including transit, roadway, bicycle, and pedestrian facilities; VMT; and emergency access. This section also identifies the direct and indirect impacts of the Proposed Project on transportation during construction, operation, and maintenance. For the purposes of this PEIR, the study area for transportation refers to the areas within and directly adjacent to Paradise and areas of unincorporated Butte County and Chico where the proposed pipeline alignment runs.

3.16.1 Environmental Setting

3.16.1.1 Roadway System

A network of local roadways and highways form the roadway system within the study area. The primary entrances to Paradise are Skyway and SR 191 (Clark Road). Paradise is connected to Chico via Skyway and to Oroville via SR 191, which is known as Clark Road upon entering Paradise.

The proposed pipeline route to connect the collection system in Paradise to the Chico WPCP follows Skyway (between Neal Road and Butte Creek), a road that runs southwest from Paradise toward the southern end of Chico. The pipeline leaves Skyway to cross Butte Creek, SR 99, and the Union Pacific Railroad. The pipeline would then follow Midway (between Marybill Ranch Road to Hegan Lane), Hegan Lane (between Midway to Dayton Road), Elk Avenue (between Dayton Road to Lone Pine Avenue), Lone Pine Avenue (between Elk Avenue to Crouch Avenue), Crouch Avenue (between Lone Pine Avenue to Chico Avenue), Chico Avenue (between Crouch Avenue to Taffee Avenue), Taffee Avenue (between Chico Avenue to Chico River Road) and Chico River Road (between Taffee Avenue to the Chico WPCP). Figure 3.16-1 shows the proposed Export Pipeline System routes.

Based on the *Chico 2030 General Plan* (City of Chico 2017), Skyway (between Neal Road and Bute Creek) is a four-lane divided freeway/expressway. Midway (between Marybill Ranch Road to Hegan Lane) is a two-lane arterial. Hegan Lane (between Midway to Dayton Road) is a two-lane minor collector. Chico River Road (between Taffee Avenue to the Chico WPCP) is a two-lane arterial. Elk Avenue (between Dayton Road to Lone Pine Avenue), Lone Pine Avenue (between Elk Avenue to Crouch Avenue), Crouch Avenue (between Lone Pine Avenue to Chico Avenue), Chico Avenue (between Crouch Avenue to Taffee Avenue) and Taffee Avenue (between Chico Avenue to Chico River Road) are all classified as two-lane local roads.

3.16.1.2 Bicycle Facilities

The following types of bicycle facilities exist within the study area:

- **Class I:** A Class I facility, commonly referred to as a bikeway or bike path, is a facility separated from automobile traffic for the exclusive use of bicyclists. Class I facilities can be designed to accommodate pedestrians, in which case they are referred to as shared or multi-use paths.
- **Class III:** Class III facilities, commonly referred to as bike routes, are on-street routes where bicyclists and automobiles share the road. They are identified with pavement markings and signage, and are typically assigned to low-volume and/or low-speed streets.

Skyway is a Class III bike route between Potter Road and Spanish Garden Drive. Midway and Park Avenue in Chico are classified as Class I bike paths.

3.16.1.3 Pedestrian System

Within Paradise, there are discontinuous sidewalks along Skyway between Neal Road and Wagstaff Road. Discontinuous sidewalks also exist along Clark Road between Pearson Road and Wagstaff Road. There are no sidewalks south of the Clark Road and Pearson Road intersection.

Within Chico, there are discontinuous sidewalks along Entler Avenue.

3.16.1.4 Transit Service

Although the automobile is the primary mode of travel within Butte County, there are other modes of travel available, such as mass transit, paratransit, and private bus operators (Butte County 2010). Butte Regional Transit (or B-Line) is Butte County's regional public transit system. B-Line provides fixed route transit services to Biggs, Chico, Gridley, Oroville, Paradise, and communities within unincorporated Butte County (Butte County 2010).

Prior to the 2018 Camp Fire, B-Line service to and from Paradise included three fixed routes: Route 41 (between Magalia and Chico via Paradise), Route 40 (between Paradise and Chico), and Route 31 (between Paradise and Oroville) (Butte Regional Transit 2019). The 2018 Camp Fire caused several changes to the B-Line service in Paradise, including a reduction in the number of trips on Routes 40 and 41 and suspension of Route 31 until further notice (Butte Regional Transit 2019). Several bus stops served by Routes 40 and 41 are located along Skyway within the boundaries of the Core Collection System (Google Earth 2022).

3.16.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on transportation. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

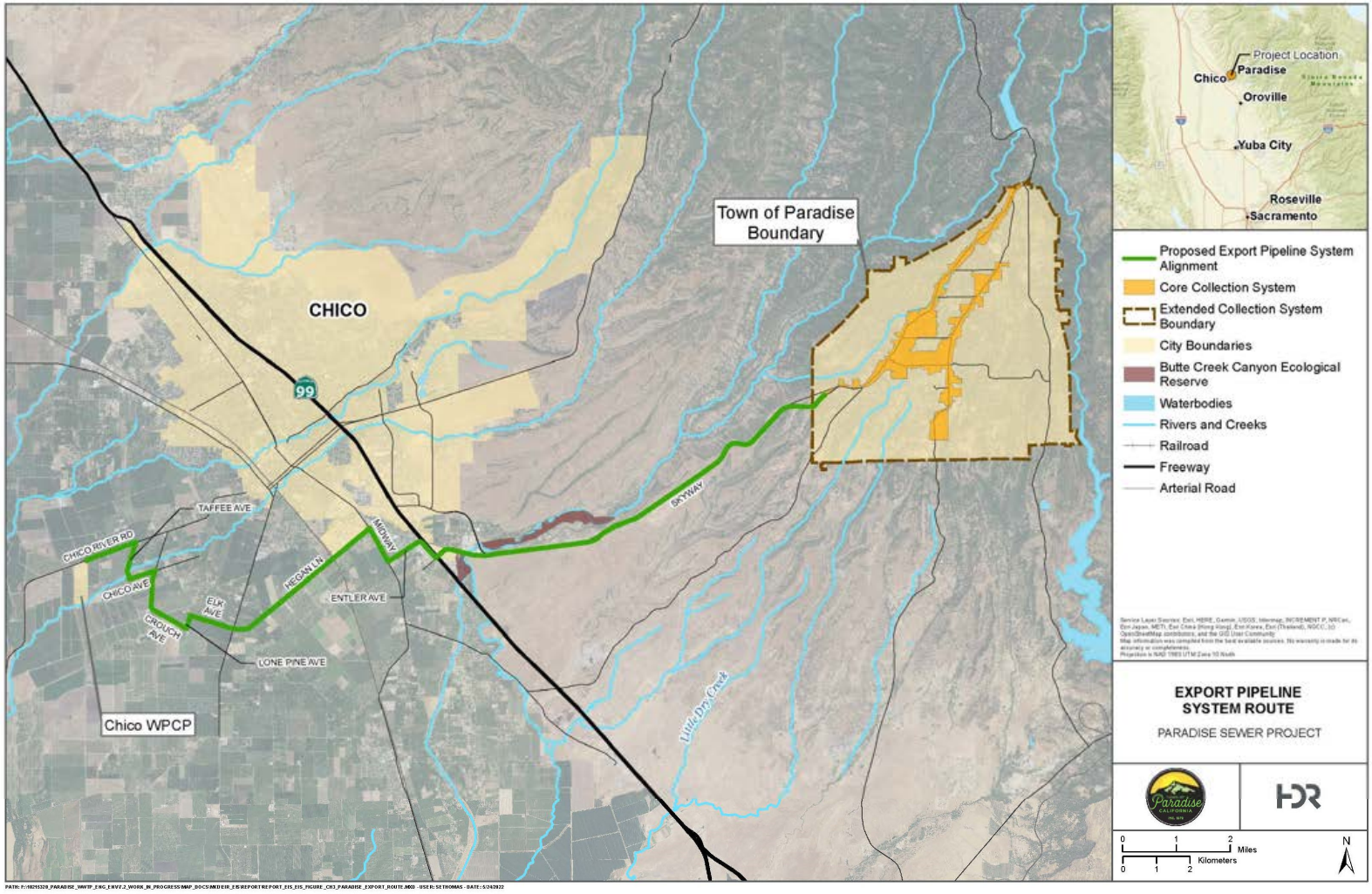

Figure 3.16-1. Paradise Export Pipeline System Routes

3.16.2.1 Federal

No identified federal laws, regulations, orders, policies, or plans regarding land use and planning are relevant to the Proposed Project.

3.16.2.2 State

Senate Bill 743

SB 743 was signed into law in September 2013. SB 743, which added PRC Section 21099 to CEQA, proposed a change in how transportation impacts are analyzed in transit priority areas to better align local environmental review with statewide objectives. These alignment considerations include reductions to GHG emissions, encouragement of infill mixed-use development in designated priority development areas, reductions of regional sprawl land development, and reductions in mobile source VMT.

In November 2017, the Governor's Office of Planning and Research released the final proposed update to CEQA Guidelines consistent with SB 743, recommending VMT, both within and outside of transit priority areas, as the most appropriate metric of transportation impact. This metric will align with local environmental review under CEQA and with California's long-term GHG emissions reduction goals.

The Proposed Project will be held to the principles set forth by SB 743.

3.16.2.3 Regional and Local

Butte County 2020 Regional Transportation Plan/Sustainable Communities Strategy

The *Butte County 2020 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS) (BCAG 2020b) specifies the policies, projects, and programs necessary over a 20-year period between 2020 and 2040 to maintain, manage, and improve the region's transportation system. BCAG is the federally designated Metropolitan Planning Organization and the state-designated Regional Transportation Planning Agency for Butte County. The RTP/SCS provides a foundation for transportation decisions by local, regional, and state officials. This foundation is based on a vision of an efficient and environmentally sound multi-modal system.

The RTP/SCS is the region's long-range plan to meet the requirements of California's Sustainable Communities and Climate Change Act of 2008 (SB 375), which calls on regions throughout California to develop a Sustainable Communities Strategy that demonstrates the integration of land use, housing, and transportation for the purpose of reducing GHG emissions from passenger vehicles. The RTP/SCS is intended to be consistent with the California Transportation Plan developed by Caltrans.

The Proposed Project will be held to the policies and programs of the RTP/SCS.

2011 Butte County Bicycle Plan

The *2011 Butte County Bicycle Plan* (Butte County 2011) provides Butte County's vision for making bicycling an integral part of the transportation system with its unincorporated limits. The plan includes emphasis on regional connectivity between the local cities of Biggs, Chico, Gridley, Oroville and the Town of Paradise, in addition to the various rural communities and recreational opportunities that exist within Butte County. The plan will also assist Butte County in its efforts to safely and equitably provide

contiguous bicycle facilities in the future as well as implement roadway projects that are bicycle friendly throughout the unincorporated areas.

The Proposed Project will be held to the policies of this plan.

Town of Paradise General Plan

The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) includes the following policies related to transportation that are relevant to the Proposed Project:

- **Goal CG-2**: Provide safe, efficient and effective traffic flow, both within Paradise and between Paradise and its environs.
- **Goal CG-4**: Provide adequate access, including access for emergency vehicles and evacuation, to all new parcels and to existing parcels when feasible.
- **Policy CP-1**: The Town will strive to maintain a level of service (LOS) “D” or better as the standard for new and existing roadways in the Paradise Planning Area. LOS “D” or better will be maintained on all local streets within the Town limits, and LOS “C” or better will be maintained whenever feasible.
- **Policy CP-8**: The Town should continue to designate and regulate truck routes in order to protect residential areas from unwanted noise and traffic.
- **Policy CP-13**: Automobile dependency within Paradise should be reduced for local residents and visitors by implementing congestion management and trip reduction plan programs that decrease the number of vehicle miles travelled which, in tum, reduces air pollution and congestion and saves energy.
- **Policy CP-15**: Expand public transportation services within Paradise and between Paradise and major employment centers as feasible, based on service demand and financial constraints.

The Proposed Project will be held to the policies in the *Town of Paradise General Plan*.

Town of Paradise VMT Policies

The Town adopted VMT Policies on April 12, 2022. The policies will be implemented, as applicable, in public and private projects in order to try to reach compliance with BCAG goals and with statewide VMT requirements. The City Council Agenda, which includes more detail on each policy, is included in Appendix B. The Town also adopted *The Town of Paradise Transportation Management Plan* in April 2022 that plans for increasing the active transportation network (that is bicycle and pedestrian pathways) to 39.3 miles of paths of which 88 percent would be along of the Towns’ major roadways (Town of Paradise 2022g). In addition to growth of the pathways, other improvements in the pedestrian network include making all intersections ADA compliant, closing gaps in the existing sidewalk network, and improving sidewalk visibility; improvements beyond growth recommended for the bicycle network include new bicycle parking, as well as a rest areas and signage (Town of Paradise 2022g). As possible, based on schedule and availability of funding, the Town will implement the improvements outlined in *The Town of Paradise Transportation Management Plan* (Town of Paradise 2022g) in coordination with implementation of Proposed Project where locations overlap. This would maximize cost efficiencies and minimize disturbances from roadway construction.

Policies include:

- Increase diversity of land uses
- Provide pedestrian network improvements
- Provide traffic calming measures and low-stress bicycle network improvements
- Implement car-sharing program
- Increase transit service frequency and speed
- Implement subsidized or discounted transit program
- Encourage telecommuting and alternative work schedules
- Provide ride-sharing programs

The Proposed Project will be held to the policies in the *Town of Paradise VMT Policies*.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following policies related to transportation that are relevant to the Proposed Project:

- **Policy CIR-P1.3**: Transportation planning within the municipalities' spheres of influence will consider the municipalities' land use and circulation plans, as appropriate, and will be consistent with Policy CIR-P6.1 pertaining to County Levels of Service.
- **Policy CIR-P2.1**: Carpooling will be encouraged by providing additional carpool pickup and park-and-ride locations near transit centers and at freeway interchanges.
- **Policy CIR-P2.2**: Trip reduction among County employees will be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
- **Policy CIR-P2.4**: Employers will be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
- **Policy CIR-P3.10**: Trees located along urban streets will be protected. If maintenance or upgrading requires tree removal, the trees will be replaced.
- **Policy CIR-P6.1**: The level of service for County-maintained roads within the unincorporated areas of the county but outside municipalities' sphere of influences (SOIs) will be LOS C or better during the PM peak hour. Within a municipality's SOI, the level of service will meet the municipality's level of service policy.
- **Policy CIR-P6.3**: Project approval will be conditioned on the provision of roadway improvements to meet the level of service standards in policies CIR-P6.1 and CIR-P6.2. Exceptions to satisfying the level of service standards and/or constructing transportation facilities to the County's design standards may be allowed on a case-by-case basis, where reducing level of service or not constructing a transportation facility to County standards would result in a clear public benefit. Such circumstances may include, but are not limited to the following:
    - Conserving agricultural or open space land.
    - Enhancing the agricultural economy.

- Protecting scenic roadways or highways.
- Preserving downtown community environments.

- **Policy CIR-P6.5**: Street improvements within the sphere of influence of an incorporated municipality will conform to the street standards of that municipality.
- **Policy CIR-P7.2**: Existing road capacity available within the County road system will be used to serve future development unless construction of a new road will enhance circulation opportunities.

The Proposed Project will be held to the policies in the *Butte County General Plan 2030*.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following policies related to transportation that are relevant to the Proposed Project:

- **Policy CIRC-1.4, Level of Service Standards**: Maintain LOS D or better for roadways and intersections at the peak PM period, except as specified below:
  - LOS E is acceptable for City streets and intersections under the following circumstances: Downtown streets, arterials served by scheduled transit, and arterials not served by scheduled transit, if bicycle and pedestrian facilities are provided within or adjacent to the roadway.
  - Utilize Caltrans LOS standards for Caltrans' facilities.
  - There are no LOS standards for private roads.
  - If improvements necessary to achieve the LOS standard results in impacts to a unique historical resource, a highly sensitive environmental area, requires infeasible right-of-way acquisition, or some other unusual physical constraint exists.
  - If the intersection is located within a corridor that utilizes coordinated signal timing, in which case, the operation of the corridor as a whole should be considered.

- **Policy CIRC-1.5, Vehicle Miles Travelled Analysis**: Consistent with State law, implement VMT assessments as part of the environmental review process under CEQA.
- **Policy CIRC-1.7, Goods Movement**: Provide clear routes for goods delivery
- **Policy CIRC-2.2, Circulation Connectivity and Efficiency**: Provide greater street connectivity and efficiency for all transportation modes.
- **Policy CIRC-9.1, Reduce Peak-Hour Trips**: Strive to reduce single occupant vehicle trips through the use of travel demand management strategies.
- **Policy CIRC-9.3, Emphasize Trip Reduction**: Emphasize automotive trip reduction in the design, review, and approval of public and private development.

The Proposed Project will be held to the policies in the *Chico 2030 General Plan*.

3.16.3 Method of Analysis

This section describes the methods used to analyze transportation impacts within the study area.

3.16.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on transportation if it would:

- **Impact TRA-1:** Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities
- **Impact TRA-2:** Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)
- **Impact TRA-3:** Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- **Impact TRA-4:** Result in inadequate emergency access

3.16.3.2 Approach to Analysis

Qualitative and quantitative analyses were performed to evaluate potential impacts on transportation using publicly available traffic data.

The analysis of environmental effects focuses on foreseeable changes to transportation in the context of effects listed in Section 3.16.3.1, CEQA Significance Criteria. The analysis considers the Core Collection System, Export Pipeline System, and Extended Collection System, as appropriate, in the context of construction, operation, and maintenance.

The analysis year for transportation was considered 2026 because that is the expected year the Proposed Project would be in operation and would be the last year of construction. The *Butte County General Plan 2030* presents peak hour service volumes as acceptable measures of roadway segment operations (Butte County 2012). The *Butte County General Plan 2030* classified the study area roadways as the same as the *Chico 2030 General Plan* (City of Chico 2017). Table 3.16-1 summarizes the peak hour service volume thresholds of Level of Service (LOS) C, D, and E for expressway, arterial, and collector. The *Butte County General Plan 2030* does not provide peak hour service volume thresholds of LOS for local roads, and therefore, will not be included in this analysis. The *Butte County General Plan 2030* specifies LOS D or better as an acceptable LOS (Butte County 2012).

Table 3.16-1. Butte County Peak Hour LOS Thresholds by Facility Type

Traffic Volume Type	4-Lane Freeway/Expressway			2-Lane Arterial			2-Lane Collector		
	LOS C	LOS D	LOS E	LOS C	LOS D	LOS E	LOS C	LOS D	LOS E
Peak Hour Service Volume	2,530	3,280	3,650	970	1,760	1,870	550	1,180	1,520

Source: Butte County 2012
Note: All threshold volumes as specified in *Butte County General Plan 2030*

While the construction activity would only be temporary, an analysis was conducted to evaluate the magnitude of temporary traffic impacts. The three specific roadways that will be used to provide key access are the following:

- Skyway

- Midway
- Hegan Lane

The above roadways were used as there was recent enough traffic data that could be used in the analysis. In order to evaluate using a conservative approach, traffic operations during the last year of construction was analyzed (which was 2026) with the peak construction activity. The BCAG traffic counts webpage provides 2014 and 2018 roadway volumes for Skyway and Midway (BCAG 2018b, 2018c). The *Chico 2030 General Plan*, Appendix B, Traffic Model Data, provides 2010 roadway volumes for Hegan Lane (City of Chico 2017). Based on these available historic roadway volume data provided by BCAG, Skyway and Midway both have negative growth rates. However, based on BCAG's *Provisional Long-Term Regional Growth Forecasts 2018-2040* (BCAG 2019b), the forecasts show a compound annual growth rate of 0.88 percent. The 2018 roadway volumes were grown using a growth rate of 0.88 percent to get the volumes to 2021 for existing and 2026 for the future year analysis. Table 3.16-2 summarizes the 2021 existing afternoon (PM) peak hour and 2026 future PM peak hour traffic volumes.

Table 3.16-2. Existing and Future PM Peak Hour Traffic Volume

Roadway Segment	Existing (2021)	No Construction (2026)
Skyway	2,018	2,109
Midway	749	783
Hegan Lane	617	644

Source: BCAG 2018c

The *BCAG 2020 RTP Travel Demand Model: Model Development Report* has VMT for 2020 and projection growth rates for the future year (BCAG 2020a). A 1.2 percent annual growth rate was used to grow the VMT to the construction year. Table 3.16-3 presents the BCAG VMT projections from 2020 to 2026 and the increase due to the construction trips.

Table 3.16-3. Butte County VMT

	Existing (2020)	No Construction (2026)
VMT	4,343,919	4,660,038

Source: BCAG 2020a

3.16.4 Impact Analysis

This section describes the potential environmental effects on transportation as a result of implementation of the Proposed Project. It includes an analysis of the Proposed Project's potential to conflict with a program, ordinance, or policy addressing the circulation system; conflict with CEQA Guidelines section 15064.3, subdivision (b); increase hazards due to a geometric design feature or incompatible uses; and result in inadequate emergency access.

3.16.4.1 Impact TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities (Less than Significant with Mitigation Incorporated)

Construction

It is estimated that approximately 121 worker trips per day and 1,500 truck trips per day would be used for the construction work related to the Core Collection System (HDR 2022). It is estimated that approximately 81 worker trips per day and 639 trucks trips per day would be used for the construction work related to the Export Pipeline System (HDR 2022). Both the Core Collection System and the Export Pipeline System construction work will occur simultaneously. Therefore, it is estimated that a total of 202 worker trips per day and 2,139 truck trips per day would be needed for the construction of the Core Collection System and the Export Pipeline System. The Proposed Project is anticipated to be constructed during typical construction work hours—8 hours per day, Monday through Friday. The activity is expected to last approximately 18 months.

It is assumed that 80 percent of the workers will be commuting during the PM peak hour due to the construction activity ending before the typical PM peak hour of 5 p.m. Therefore, the construction related trips generated by workers during PM peak hour is estimated to be 162 trips per peak hour. The 2,139 daily truck trips were divided by 8 (construction hours per day) to estimate 268 truck trips per peak hour. The total construction trips per peak hour (workers + trucks) was estimated to be 430 per peak hour.

Table 3.16-4 summarizes the no construction and construction conditions PM peak hour volume results on the study road segments in 2026.

Table 3.16-4. 2026 No Construction and Construction Traffic Volumes

Roadway Segment	PM Peak Hour Volume			
	LOS D Threshold	No Construction (2026)	Construction Trips	Construction (2026)
Skyway	3,280	2,109	430	2,539
Midway	1,760	783	430	1,213
Hegan Lane	1,180	644	430	1,074

Source: Butte County 2012, BCAG 2018c

As shown in Table 3.16-4, the Skyway and Midway segments operate below the LOS D threshold under future 2026 conditions and the Project construction trips are not expected to cause LOS degradation or lead to larger delays. As shown in Table 3.16-4, Hegan Lane operates at LOS D under future 2026 conditions, which shows that the roadway segment is near capacity. The additional construction trips are minimal compared to the typical volume and does not cause a degradation of LOS.

Similar to the Core Collection System, construction of the Extended Collection System would add trips to the roadways segments. The Extended Collection System is expected to generate similar vehicle trip volumes as estimated for the Core Collection System, though likely for a shorter timeframe. Similar to the Core Collection System, the additional construction trips would be minimal compared to the typical volume and would not cause a degradation of LOS.

As presented in Section 3.16.2, Regulatory Framework, LOS D or better is an acceptable LOS in Paradise, Butte County, and Chico. Therefore, the roadway segments would operate at an acceptable LOS with the addition of construction traffic associated with the Proposed Project.

Installation of the pipeline within the ROW would temporarily affect traffic flow. Pipeline installation within the ROW would require temporary lane closures. Construction of the Export Pipeline System within or across streets could obstruct access and cause delays for pedestrians, bicyclists, and transit buses. Therefore, the impact related to potential conflicts with a program, plan, ordinance, or policy addressing the circulation system would be significant.

Mitigation. To minimize potentially significant impacts on pedestrian, bicycle, and transit facilities during construction of the Proposed Project to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 0, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of mitigation measure **MM-HAZ-6**, impacts on pedestrian, bicycle, and transit facilities during construction would be less than significant.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would result in minimal increased traffic volumes on the roadways in the study area. Relative to existing traffic volumes on roadways in the study area, the addition of traffic associated with operation and maintenance of the Proposed Project would not affect roadway operations. Therefore, impacts related to conflict with a program, plan, ordinance, or policy addressing the circulation system during operation and maintenance of the Proposed Project would be less than significant.

Mitigation. No mitigation required.

3.16.4.2 Impact TRA-2: Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? (Less than Significant Impact)

CEQA Guidelines Section 15064.3, subdivision (b) provides the following criteria for analyzing transportation impacts, although only criteria 3 and 4 apply to this Project:

1. **Land Use Projects.** VMT exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than

significant transportation impact. Projects that decrease VMT in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.

2. **Transportation Projects.** Transportation projects that reduce, or have no impact on, VMT should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.
3. **Qualitative Analysis.** If existing models or methods are not available to estimate the VMT for the particular project being considered, a lead agency may analyze the project's VMT qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.
4. **Methodology.** A lead agency has discretion to choose the most appropriate methodology to evaluate a project's VMT, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's VMT and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate VMT and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

Construction

Construction of the Proposed Project would cause a temporary increase in VMT due to the worker and truck trips. As described under Impact TRA-1, a total of 202 workers per day and 2,139 truck trips per day would be needed for the construction of the proposed Core Collection System and the Export Pipeline System. The worker trips are assumed to have a 15-mile average trip length, while the trucks trips are assumed to have a 50-mile average trip length. The *BCAG 2020 RTP Travel Demand Model: Model Development Report* has VMT for 2020 and projection growth rates for the future year (BCAG 2020a). A 1.2 percent annual growth rate was used to grow the VMT to the construction year. Table 3.16-5 presents the BCAG VMT projections from 2020 to 2026 and the increase due to the construction trips. The 2020 VMT projections represent the existing conditions while the 2026 VMT projections represent the opening year and final year of construction.

Table 3.16-5. Butte County VMT

	2020	2026 No Construction	2026 Construction	Percent Increase
VMT	4,343,919	4,660,038	4,770,018	2.3

Source: BCAG 2020a

As shown in Table 3.16-5, the percentage increase due to the construction trips associated with the Core Collection System and Export Pipeline System is 2.3 percent of Butte County's VMT. While the construction traffic would cause an increase in VMT, the increase would be temporary and short-term. Likewise, while construction of the Extended Collection System would continue in future years after the Core Collection System and Export Pipeline System is installed, similar traffic volumes and approaches

would be assumed resulting in comparable if not fewer intensive impacts on VMT. Therefore, impacts related to conflict with or inconsistency with CEQA Guidelines Section 15064.3(b) during construction of the Proposed Project would be less than significant.

Mitigation. No mitigation required.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would not cause an increase in VMT in the study area due to the infrequency of these activities. Therefore, operation and maintenance of the Proposed Project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3(b), resulting in no impact.

Mitigation. No mitigation required.

3.16.4.3 Impact TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (No Impact)

Construction, Operation, and Maintenance

The Proposed Project elements would not change geometric design features or require incompatible uses. Neither permanent nor temporary geometric design changes are anticipated as all street legal trucks and vehicles would use the existing roadways to enter and exit the Project site. Additionally, construction of the Core Collection System, the Export Pipeline System, and the Extended Collection System would largely occur within the existing ROW and conditions would be restored once construction is complete. Therefore, the Proposed Project would have no impact on hazards due to a geometric design feature or incompatible uses.

Mitigation. No mitigation required.

3.16.4.4 Impact TRA-4: Result in inadequate emergency access (Less than Significant with Mitigation Incorporated)

Construction

Construction activities associated with the Proposed Project would require the temporary closure of traffic lanes on public roadways. Construction of the Proposed Project would add truck and vehicle traffic to roadways in the study area. Construction-related trucks and vehicles could interfere with emergency response to the Project site or evacuation procedures in the event of an emergency. Therefore, construction of the Proposed Project could result in inadequate emergency access, resulting in a potentially significant impact.

Mitigation. To minimize potentially significant impacts related to emergency access during construction of the Proposed Project to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

***MM*-HAZ-6: Traffic Management Plan** (see Section 0, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of mitigation measure **MM-HAZ-6**, impacts related to emergency access during construction would be less than significant.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would result in increased traffic volumes on the roadways in the study area. Relative to existing traffic volumes on roadways in the study area, the addition of traffic associated with operation and maintenance of the Proposed Project would not affect roadway operations in the study area. As a result, emergency access would remain similar to existing conditions during operations and maintenance. Therefore, impacts on emergency access during operation and maintenance of the Proposed Project would be less than significant.

Mitigation. No mitigation required.

3.16.5 Impacts Summary

Table 3.16-6 summarizes the transportation impacts of the Proposed Project.

Table 3.16-6. Transportation Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities	SI	MM-HAZ-6	S/M
Impact TRA-2: Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)	LTS	N/A	LTS
Impact TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)	NI	N/A	NI
Impact TRA-4: Result in inadequate emergency access	SI	MM-HAZ-6	S/M

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

3.16.6 References

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3.17 Tribal Cultural Resources

This section describes the environmental setting and regulatory framework for TCR in the study area and includes a summary and discussion of the consultation held with Native American tribes, which is a necessary step to identifying TCRs that may be affected by the Proposed Project. This section also identifies the direct and indirect impacts of the Proposed Project on TCRs during construction, operation, and maintenance. The study area to identify TCRs is defined as the geographical extent of the proposed project, inclusive of the Export Pipeline System, Core Collection System, and Extended Collection System.

3.17.1 Environmental Setting

Knowledge of current environmental conditions is critical to the assessment of potential environmental impacts on TCR because TCRs may include components of the environment that comprise sites, features, places, cultural landscapes, or sacred places with cultural importance to California Native American tribes. Knowledge of current environmental conditions with regard to TCRs is reliant on the values of Indigenous groups and individuals for whom such resources embody and reflect culturally defined perspectives, values, traditions, and relationships with the environment.

The study area is situated within the ancestral territory of the Konkow people that have lived—and continue to live—in the region since 3,000-2,000 B.P. The historical homeland of the foothill Konkow are the foothills region of the northern Sierra, centered on the river drainages of the North Fork of the Feather River, and roughly encompasses the present political boundaries of Butte County. Archaeological, ethnographic, and historic-era context presented in Section 0, Cultural Resources, provides relevant information to the understanding of TCRs as cultural resources; this section provides additional information within the framework of tribal cultural values held by California Native American tribes that define the significance of TCRs within the Proposed Project area. The records search and pedestrian survey discussed in Section 0 identified several cultural resources that may also hold significance to California Native American tribes outside of the archaeological significance discussed above as the tribes are cultural stewards in the study area, and which are currently unevaluated for such significance in relation to their eligibility for listing in the CRHR.

As summarized and discussed above in Section 0, Indigenous people have undergone centuries of racial, ethnic, and cultural adversity in their homelands, and still maintain traditional, religious, and cultural connections with the environment. Today, many Konkow tribal organizations and culturally affiliated groups maintain connections with the surrounding area of the study area including Berry Creek Rancheria of Maidu Indians (Tyme Maidu Tribe), Enterprise Rancheria of Maidu Indians of California (Enterprise Rancheria Estom Yumeka Maidu), Konkow Valley Band of Maidu, Mechoopda Indian Tribe of Chico Rancheria, Mooretown Rancheria of Maidu Indians, and Round Valley Indian Tribes of the Round Valley Reservation. These Indigenous organizations and others maintain stewardship of their culture—inclusive of its language, epistemologies, histories, and traditions—in the vicinity of the study area through cultural educational programs, public education programs, cultural ceremonies, religious practices, ecological heritage, consultation with local, state, and federal agencies, among other actions.

The Konkow Valley Band of Maidu is actively engaged in cultural endurance and stewardship in their ancestral lands which includes a majority of the proposed project area. TCRs with significance to the Konkow Valley Band of Maidu include components of the environment that comprise sites, features, places, cultural landscapes, or sacred places with cultural importance. As part of ongoing stewardship, Konkow Valley Band of Maidu maintains a monitoring program through Konkow Valley Cultural Preservation to protect and prevent disturbances to resources of importance. The Mechoopda Indian Tribe of Chico Rancheria has successfully reestablished residency in Chico through many efforts, including development of the Chico Rancheria Housing Corporation; land purchases and construction of a tribal office complex and community building; development of the Mechoopda Economic Development Corporation, acquisition of 650 acres of “restored lands” south of Chico; among other successful efforts in the political, economic, and social rebuilding and restoration of the Mechoopda people (Mechoopda Indian Tribe of Chico Rancheria 2021). Resources of cultural importance are likely to include those that provide the Mechoopda people with a connection to their heritage within the vicinity of the Proposed Project area in various ways, including sites, features, places, cultural landscapes, or sacred places with cultural importance connected to previous ancestral habitation, burial sites, ritual performance sites, and places and spaces that support traditional and cultural activities.

Through consultation with Konkow Valley Band of Maidu and Mechoopda Indian Tribe of Chico Rancheria, further discussed below, the Town has been made aware that the study area is near several areas that are culturally sensitive for these tribes. Appropriate mitigation measures have been established for the Proposed Project in coordination with Konkow Valley Band of Maidu and Mechoopda Indian Tribe of Chico Rancheria to appropriately avoid significant impacts on culturally sensitive areas (see Section 3.17.4).

3.17.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project’s impacts on tribal cultural resources. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.17.2.1 Federal

Indian Trust Assets

Indian Trust Assets are legal interests in property held in trust by the United States for Native American tribes or individuals. Examples of potential Indian Trust Assets are lands, minerals, fishing rights, and water rights. Management of Indian Trust Assets is based on the following orders, agreements, and regulations: EO 13175, Memorandum on Government-to-Government Relations with Native American Tribal Governments, Secretarial Order No. 3175, Secretarial Order No. 3206, Secretarial Order No. 3215, Secretarial Order No. 3342, and Secretarial Order No. 3335.

The Proposed Project will be held to the management principles of Indian Trust Assets.

American Indian Religious Freedom Act

The American Indian Religious Freedom Act of 1978 (42 USC Section 1996) protects the rights of Native Americans to exercise their traditional religions by ensuring access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.

The Proposed Project will be held to the principles set forth by this act.

Historic Sites Act

The Historic Sites Act of 1935 (54 USC Sections 320101–320106, formerly 16 USC 461–467) declares "…that it is a national policy to preserve for public use historic sites, buildings, and objects of national significance…," asserting historic preservation as a government duty under jurisdiction of the United States Secretary of the Interior.

The Proposed Project will be held to the requirements of this act.

National Historic Preservation Act

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties. It is important to note that historic properties include properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization that meet the National Register criteria (36 CFR Section 800.16[l]).

The Proposed Project will be held to the requirements of the National Historic Preservation Act.

Traditional Cultural Properties and Traditional Cultural Landscapes

Traditional cultural properties are properties associated with cultural practices or beliefs of a living community that are: (1) rooted in that community's history; and (2) important in maintaining the continuing cultural identity of a community. Traditional cultural properties can refer to properties of importance to any community, including indigenous communities.

Traditional cultural landscapes encompass the same meaning and utility, as well as inclusivity of indigenous communities. The Secretary of the Interior's Guidelines for the treatment of cultural landscapes define a cultural landscape as "a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values" (Birnbaum and Peters 1996).

If a property is determined to be a traditional cultural property, it becomes the responsibility of the lead agency to assess whether the proposed project would have an effect on the property, and should the effect be adverse, would it alter or destroy the elements that make the property significant and eligible. If a proposed project is determined to have an adverse effect, the lead agency is responsible for seeking measures that would mitigate the adverse effects to traditional cultural properties.

The Proposed Project will be held to the principles of traditional cultural properties and traditional cultural landscapes.

3.17.2.2 State

Tribal Cultural Resources

As defined at PRC Section 21074, a TCR is a site, feature, place, cultural landscape, sacred place or object that is of cultural value to a California Native American tribe and is either: (1) on or eligible for the CRHR or a local historic register; or (2) the lead agency, at its discretion, chooses to treat the resource as a TCR. TCRs are similar to traditional cultural properties in terms of their characteristics, identification, and treatment, and may include a cultural landscape to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. Additionally, as defined at PRC

Section 21074, a historical resource, a unique archaeological resource, or a non-unique archaeological resource may also be a TCR if it conforms to the criteria of a TCR in PRC Section 21074(a). CEQA mandates that lead agencies determine whether a project will have a significant impact on TCRs that are eligible for listing on the CRHR (i.e., a historical resource), or are determined to be significant by the lead agency in order to appropriately mitigate any such impacts.

In accordance with CEQA guidelines, cultural resources investigations are necessary to identify TCRs that may have significant impacts as a result of a project (14 CCR Section 15064.5). The following steps are routinely implemented in a cultural resources investigation for CEQA compliance:

5. Identify cultural resources in the proposed project area
6. Evaluate against the CRHR criteria of significance (listed below)
7. Evaluate the impacts of the proposed project on all cultural/tribal resources
8. Develop and implement measures to mitigate proposed project impacts on historical resources or resources deemed significant by the lead agency

As TCRs hold cultural value to a California Native American tribe, consultation with local Native American tribes is an integral component of each of the cultural resources investigation steps described above.

The Proposed Project will be held to the regulatory requirements imposed by CEQA Statutes and further explained in CEQA Guidelines.

Assembly Bill 52 and Consultation

The lead agency for CEQA is responsible for consultation with Native American tribes regarding the potential for a project to impact TCRs, pursuant to AB 52 and PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, 21084.3, and 5097.94(m). AB 52 recognizes that "…tribes may have expertise with regard to their tribal history and practices, which concern the tribal cultural resources with which they are traditionally and culturally affiliated…" and that consultation will occur between a lead agency and Native American tribes for covered projects.

As described in Section 0, Cultural Resources, a proposed project may induce a significant impact to a historical resource, unique archaeological resource, or a TCR if it causes a substantial adverse change (i.e., physical demolition, destruction, relocation, or alteration) to the resource or immediate surroundings (14 CCR Section 15064.5[b]), thereby demolishing or significantly altering the physical characteristics that qualify it for listing on the CRHR or local registers (PRC Sections 5020.01[k] and 5024.1[g]). A project that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment (PRC Section 21084.2). A lead agency will establish measures to avoid impacts that would alter significant characteristics of a TCR, when feasible (PRC Section 21084.3).

As such, the Town is committed to working together with tribes and consultation efforts with California Native American tribes are described below.

The Proposed Project will be held to the requirements set forth by AB 52.

Native American Historical, Cultural, and Sacred Sites

Pursuant to PRC Section 5097.94 the NAHC has authority and duty to "identify and catalog places of special religious or social significance to Native Americans and known graves and cemeteries of Native Americans on private lands" and has the power and duty to make recommendations for acquisition by the state or other public agencies regarding Native American sacred places that are located on private lands, are inaccessible to Native Americans, and have cultural significance to Native Americans.

The Proposed Project will be held to the requirements set forth by PRC Section 5097.94.

California Native American Graves Protection and Repatriation Act

The California Native American Graves Protection and Repatriation Act of 2001 requires all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items to provide a process for the identification and repatriation of these items to the appropriate tribes.

The Proposed Project will be held to the requirements set forth by this act.

Senate Bill 18

SB 18 provides California Native American tribes an opportunity to participate in local land use decisions at an early planning stage for the purpose of protecting or mitigating impacts to cultural places. SB 18 requires local governments to consult with tribes prior to making certain planning decisions, including the adoption and amendment of general plans.

The Proposed Project will be held to the requirements set forth by SB 18.

3.17.2.3 Regional and Local

Town of Paradise General Plan

The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) includes the following goals and policies related to TCRs that are relevant to the Proposed Project:

- **Goal OCEG-9**: Identify, record, preserve, and protect historical and archaeological resources.
- **Policy OCEP-36**: The *Land Use Constraints Diagram* identifies areas of potential archaeological sensitivity. Proposed development or public works projects within this area will be required to undertake an archaeological survey prior to project approval. Proposed projects outside this area, in locations that have not been significantly disturbed, will be referred to the California Archaeological Inventory, Northeast Information Center, California State University, Chico to undertake an archaeological survey prior to project approval upon recommendation by the Center.
- **Implementation Measure OCEI-18**: Require compliance of all development projects with Appendix K (archeological impacts) of the *Guidelines for Implementation of the California Environmental Quality Act*.
- **Implementation Measure OCEI-19**: When an archaeological survey is required by the Town or recommended by the California Archaeological Inventory, Northeast Information Center, the survey will be undertaken by a qualified professional archaeologist who is certified by the Society of Professional Archaeologists or has equivalent qualifications.

- **Implementation Measure OCEI-20**: Should any historic or pre-historic artifacts be discovered during construction, all work will cease until a qualified professional archaeologist views the site, provides recommendations and gives clearance to continue.

The Proposed Project will be held to the goals, policies, and implementation measures in the *Town of Paradise General Plan*.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following policies related to TCRs that are relevant to the Proposed Project:

- **Policy COS-P14.1**: Historic and cultural resources management will be coordinated with nearby jurisdictions, including the five incorporated municipalities, the Lassen and Plumas National Forests, other planning and regulatory agencies, and local tribes.
- **Policy COS-P14.2**: As part of CEQA and NEPA projects, evaluations of surface and subsurface cultural resources in the county will be conducted. Such evaluations should involve consultation with the Northeast Information Center.
- **Policy COS-P14.3**: The Northeast Information Center and appropriate historic and preservation professionals will be consulted when considering reuse of historic sites.
- **Policy COS-P15.1**: Areas found during construction to contain significant historic or prehistoric archaeological artifacts will be examined by a qualified consulting archaeologist or historian for appropriate protection and preservation. Historic or prehistoric artifacts found during construction will be examined by a qualified consulting archaeologist or historian to determine their significance and develop appropriate protection and preservation measures.
- **Policy COS-P15.2**: Any archaeological or paleontological resources on a development project site will be either preserved in their sites or adequately documented as a condition of removal. When a development project has sufficient flexibility, avoidance and preservation of the resource will be the primary mitigation measure.
- **Policy COS-P15.3**: Demolition permit application on potentially important historic sites will be subject to discretionary review.
- **Policy COS-P16.2**: Impacts to the traditional Native American landscape will be considered during California Environmental Quality Act or National Environmental Protection Act review of development proposals.
- **Policy COS-P16.3**: Human remains discovered during implementation of public and private development projects will be treated with dignity and respect. Such treatment will fully comply with the federal Native American Graves Protection and Repatriation Act and other appropriate laws.
- **Policy COS-P16.4**: If human remains are located during any ground disturbing activity, work will stop until the County Coroner has been contacted, and, if the human remains are determined to be of Native American origin, the NAHC and most likely descendant have been consulted.
- **Policy COS-P16.5**: Consistent with State local and tribal intergovernmental consultation requirements such as SB18, the County will consult with Native American tribes that may be interested in proposed new development projects and land use policy changes.

The Proposed Project will be held to the policies in the *Butte County General Plan 2030*.

Memorandum of Understanding between the City of Chico and Mechoopda Indian Tribe

A Memorandum of Understanding has been established between the City of Chico and Mechoopda Indian Tribe of Chico Rancheria, describing the original relationship to the land. The Memorandum of Understanding establishes framework for consultation between the City of Chico and Mechoopda Indian Tribe prior to development of new open space or land use plans, per SB 18, to best protect cultural resources in the City of Chico and all of its open spaces through government-to-government communication.

The Proposed Project will be held to the principles set forth by this memorandum of understanding.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following policies related to cultural resources that are relevant to the Proposed Project:

- **Policy CRHP-1.1, Historic Preservation Program**: Maintain a comprehensive Historic Preservation Program that includes policies and regulations which protect and preserve the archeological, historical, and cultural resources of Chico.
- **Policy CRHP-2.3, Demolition as Last Resort**: Limit the demolition of historic resources to an act of last resort, to be permitted only if: 1) rehabilitation of the resource is not feasible; 2) demolition is necessary to protect the health, safety, and welfare of its residents; or 3) the public benefits outweigh the loss of the historic resource.
- **Policy CRHP-3.1, Partnerships to Preserve Heritage Resources**: Foster partnerships with interested parties to preserve heritage resources.

The Proposed Project will be held to the policies in the *Chico 2030 General Plan*.

City of Chico Historic Preservation Ordinance

The Historic Preservation Ordinance of the City of Chico's Municipal Code (Chapter 19.37) specifically affords protection for properties listed on the City of Chico's Historic Resources Inventory and provides a mechanism to add historic properties to the Inventory through Landmark Overlay zoning districts. The ordinance also provides development incentives to owners of designated historic property and establishes a number of exempt activities such as ordinary maintenance and repair.

The Proposed Project will be held to the requirements of the City of Chico's Historic Preservation Ordinance.

California State University, Chico Research Foundation Ecological Reserves Management Plan, Memorandums of Understanding and Agreement

California State University, Chico has implemented a management plan for the Butte Creek Canyon Ecological Reserve, which consists of a 287-acre property comprising two units, the Virgin Valley and Canyon Units, located along Butte Creek. According to the management plan, a number of cultural resources indicative of historical and pre-contact occupation are likely to occur on Butte Creek Canyon Ecological Reserve lands based on cultural resource inventories conducted on adjoining lands with similar landscape and habitat.

The Mechoopda Indian Tribe is a partner with California State University, Chico to the Memorandum of Agreement Regarding Guiding Principles for CSU, Chico Consultation with the Mechoopda Indian Tribe of Chico Rancheria (2018) with commitments for consultation and development of a cultural resources plan regarding the recognized ancestral lands of the Mechoopda Indian Tribe that encompass the California State University, Chico campus. The Mechoopda Indian Tribe is also partner with Chico State Enterprises to the Memorandum of Understanding between the Mechoopda Indian Tribe of Chico Rancheria and Chico State Enterprises (2020) for Chico State Enterprises-administered lands, which include the Big Chico Creek Ecological Reserve and the Butte Creek Ecological Preserve. The Proposed Project intersects with the Butte Creek Ecological Preserve.

The Proposed Project will be held to the principles of the management plan and memorandum of agreement implemented by California State University, Chico.

3.17.3 Method of Analysis

This section describes the methods used to analyze impacts on TCRs within the study area.

3.17.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on TCRs if it would:

- **Impact TCR-1:** Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or
    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency will consider the significance of the resource to a California Native American tribe.

3.17.3.2 Approach to Analysis

Identification of Tribal Cultural Resources

As discussed above, a TCR is a site, feature, place, cultural landscape, sacred place, or object that is of cultural value to a California Native American tribe and is either: (1) on or eligible for listing in the CRHR or a local historic register; or (2) the lead agency, at its discretion, chooses to treat the resource as a TCR (PRC Section 21074). Under CEQA Guidelines, even if a resource is not included on any local, state, or federal register, or identified in a qualifying historical resources survey, a lead agency may still determine that any resource is a historical resource (i.e., TCR) for the purposes of CEQA, if there is substantial evidence supporting such a determination (CEQA Guidelines Section 15064.5[a]). A lead agency must consider a resource to be historically significant if it finds that the resource meets the criteria for listing in the CRHR.

For the Proposed Project, the evaluation of archaeological sites identified in Section 3.5.1.5 has considered the archaeological significance of the resources currently identified, as well as cultural value significance to Native American tribes. Consideration of significance by the communities for which the resources hold value is especially critical when historic properties are evaluated under Criterion D, as mainstream archaeological notions of "information potential" do not account for tribal perspectives, values, and practices associated with traditional knowledge and their indelible connections to historic properties and heritage and cultural resources. National Register Bulletin 38 states that "[p]roperties that have traditional cultural significance often have already yielded, or have the potential to yield, important information through ethnographic, archeological, sociological, folkloric, or other studies" (Parker and King 1998:14). While information potential may align with and/or be supported by Western scientific methods and criteria, such as those applied and pursued by archaeology, ethnography, folk studies, history/ethnohistory, geography, or other cognate disciplines, for Indigenous communities, Criterion D information potential eligibility must include the events, lessons, figures, and processes associated with the cosmology and Tribally defined protocols, standards, and approaches to information and knowledge production.

The *Butte County General Plan 2030* indicates that there "are a number of Native American sacred sites located throughout the county" and also recognizes the importance of viewshed areas with particular importance noted for the Butte Creek Canyon, which is immediately adjacent to the Proposed Project area (Butte County 2012). According to the *Butte County General Plan 2030*, "the Skyway provides views to a dramatic and panoramic display of the topographic and geologic features of Butte Creek Canyon. A portion of this canyon is protected as an ecological reserve by the State Department of Fish and Game" (Butte County 2012). The ecological reserve is the above-mentioned Butte Creek Canyon Ecological Reserve, which consists of a 287-acre property comprising two units, the Virgin Valley and Canyon Units, located along Butte Creek.

Based on background research, archaeological analysis discussed above in Section 0, and consultation efforts discussed below, including a search of the NAHC's Sacred Lands File, there is potential for TCRs to be located within the Proposed Project area. To date, no CRHR-eligible or listed TCRs have been identified within the Proposed Project area; however, it is important to acknowledge that absence of identification in these efforts does not correlate with an absence of TCRs.

Tribal Consultation

To help determine whether a project may have a significant effect on TCRs, PRC Section 21080.3.1 requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. As such, Native American tribes were consulted to determine the presence of TCR in the study area.

Pursuant to PRC Section 21080.3.1 and in support of AB 52, consultation efforts with Native American tribal contacts have been incorporated in the cultural resources' investigation of the study area, as "California Native American tribes traditionally and culturally affiliated with a geographic area may have expertise concerning their tribal cultural resources" (PRC Section 21080.3.1[a]). Pursuant to PRC Section 21080.3.1(b), lead agencies are required to send notifications of proposed projects to California Native American tribes that have requested in writing to be informed of proposed projects for consultation.

To date, no tribes have requested notification of the opportunity to consult with the Town on the Proposed Projects pursuant to the PRC; however, the Town seeks to engage with potentially interested tribal contacts for current consultation efforts and as such contacted the NAHC on June 29, 2020, and April 26, 2021, to request a list of California Native American tribes and organizations that may have an interest in the Proposed Project pursuant to PRC Section 21080.3.1(c), as well as to request a search of the Sacred Lands File. The NAHC responded on July 1, 2020, and April 27, 2021, providing a list of tribes that have cultural and traditional affiliation to the Proposed Project area, shown in Table 3.17-1. The NAHC also reported that their search of the Sacred Lands File yielded negative results, although that does not mean there are not significant resources within the Proposed Project area. The NAHC's letter is provided in Appendix G Tribal Consultation.

The Town subsequently mailed courtesy letters on May 10, 2021, to potentially interested tribes listed in Table 3.17-1 in order to provide an opportunity to request such notification from the Town (Appendix G Tribal Consultation). As a result of these courtesy correspondence efforts, Chairperson Jessica Lopez of the Konkow Valley Band of Maidu responded via phone call on May 14, 2021, indicating that the tribe would like to consult on the Proposed Project pursuant to AB 52. Kyle McHenry, THPO for the Mechoopda Indian Tribe, responded to the letter via phone call and email on May 25, 2021, to initiate consultation regarding the Proposed Project. To date, no response has been received from the Mooretown Rancheria of Maidu Indians regarding consultation for the Proposed Project.

Table 3.17-1. Tribes and Tribal Representatives Identified by the Native American Heritage Commission Who May Have an Interest in the Project

Tribe	Tribal Representative
Konkow Valley Band of Maidu	Jessica Lopez, Chairperson
Mechoopda Indian Tribe of Chico Rancheria	Dennis Ramirez, Chairperson Kyle McHenry, Tribal Historic Preservation Officer (THPO)
Mooretown Rancheria of Maidu Indians	Benjamin Clark, Chairperson Guy Taylor, Representative

The Town and its consultant, HDR, coordinated with the Konkow Valley Band of Maidu and Mechoopda Indian Tribe via emails and phone calls for an initial consultation meeting held on August 10, 2021, via web meeting. Both Konkow Valley Band of Maidu and Mechoopda Indian Tribe agreed to a joint consultation meeting as the Tribes have a collaborative and cooperative relationship for the management of projects that fall within their adjacent and overlapping geographic and cultural areas of interest. During the initial consultation meeting, the Proposed Project overview was discussed, and conversations were held in response to questions from both tribes. The Town and HDR provided confidential meeting notes to all participants of this meeting, as well as materials requested for further review by the Tribes. A subsequent joint-consultation meeting was coordinated via email and phone calls, and held on September 9, 2021, via web meeting. Both tribes indicated that they had each reviewed the materials provided by the Town. Kyle McHenry identified a concern for potential Project-related impacts in sensitive areas and requested incorporation of measures for the Proposed Project to retain Tribal Cultural Monitors during construction activities in sensitive areas designated by the tribes. Chairperson Jessica Lopez stated a concern for sensitive plant species that may be considered TCR and requested relevant biological assessment information for review, in order to provide any necessary

information related to TCR identification or impact avoidance. The Town agreed to provide the biological assessment information, as well as the draft TCR section language to both Tribes for review.

Additional phone calls and emails were exchanged, and as a result, updates were made to the cultural resources report to address concerns regarding the potential for rediscovery of cultural resources that had been previously recorded but not relocated during survey. Matthew Gramps-Williford, Vice Chair and Cultural Resources Director of the Konkow Valley Maidu Band, requested an in-person consultation meeting with the Town and HDR. The meeting was held on December 20, 2021, at the Town's offices. Chairperson Lopez concluded AB 52 consultation on January 13, 2022, and THPO Kyle McHenry concluded AB 52 consultation on January 14, 2022, with the understanding that communication between the Town and the respective Konkow Valley Band of Maidu and Mechoopda Indian Tribe will continue with regard to the commitments made in this report, which include coordination with both Tribes for identifying sensitive areas and Tribal Cultural Monitoring during construction.

As part of continued communication, the Town reached out to the Tribes on April 7, 2022, via email from HDR, to solicit input and hear concerns regarding potential impacts to TCRs caused by a change to the pipeline alignment for the Proposed Project (Appendix G Tribal Consultation).

3.17.4 Impact Analysis

3.17.4.1 Impact TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- **Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or**
- **A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency will consider the significance of the resource to a California Native American tribe (Less than Significant Impact with Mitigation Incorporated)**

Construction

Under CEQA, a project with an impact that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment. Substantial adverse change in the significance of a TCR is defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a TCR would be materially impaired. The significance of a TCR would be significantly impaired when a project demolishes or materially alters in an adverse manner those physical characteristics of a TCR that convey its significance and that justify its eligibility for inclusion in the NRHP, the CRHR, a local register of historical resources pursuant to PRC Section 5020.1(k), or historical resources surveys meeting the requirements of PRC Section 5024.1(g).

Impacts on a TCR are likely to be associated with construction of the Core Collection System, Export Pipeline System, and the Extended Collection System. Excavation and ground disturbing activities as a result of these construction activities have the potential to impact newly identified and previously unknown TCRs in the study area.

Although no CRHR-eligible TCRs have been identified within the Proposed Project area, it has been made clear by the Tribes that there is the potential for TCRs to exist within the Proposed Project area. This is considered a potentially significant impact.

Mitigation. To minimize potentially significant impacts on TCRs during construction of the Proposed Project to a less than significant level, mitigation measures **MM-TCR-1** and **MM-TCR-2** will be implemented.

***MM*-TCR-1: Coordination with Konkow Valley Band of Maidu and Mechoopda Indian Tribe.** During final design, the Town will continue to consult and coordinate with the Konkow Valley Band of Maidu and Mechoopda Indian Tribe to identify sensitive areas to be protected during construction work and appropriate methods to protect those areas.

MM-TRC-2: Tribal Cultural Monitoring. Prior to construction, the Town will coordinate with the Konkow Valley Band of Maidu and Mechoopda Indian Tribe to identify a Tribal Cultural Monitor, as deemed necessary by either/both Tribes, to be present during ground disturbance work within areas designated as sensitive for tribal cultural resources.

Significance after Mitigation. Implementation of **MM-TRC-1** and **MM-TRC-2** would reduce potentially significant impacts on TCRs resulting from inadvertent damage or destruction of unknown TCRs during construction to a less than significant level because appropriate procedures would be followed to ensure that any unanticipated cultural resources discovered during Project-related ground-disturbing activities are appropriately handled and documented in consultation and coordination with the Tribes.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to impact TCRs. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Proposed Project would result in a less than significant impact on TCRs.

Mitigation. No mitigation required.

3.17.5 Impacts Summary

Table 3.17-2 summarizes the tribal cultural resources impacts of the Proposed Project.

Table 3.17-2. Tribal Cultural Resources Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: • Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or • A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency will consider the significance of the resource to a California Native American tribe	SI	MM-TCR-1 MM-TCR-2	S/M

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less-than-Significant Level

3.17.6 References

Birnbaum, Charles and Peters, Christine. 1996. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*. US Department of the Interior, National Park Service, Cultural Resource Stewardship and Partnerships, Heritage Preservation Services, Historic Landscape Initiative: Washington D.C.

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City of Chico. 2017. *Chico 2030 General Plan*. Adopted April 2011. Amended March 2017. https://chico.ca.us/post/chico-2030-general-plan.

Konkow Maidu Cultural Preservation Association. 2021. "About Us." Accessed September 20, 2021. http://maidu.org/about.html.

Mechoopda Indian Tribe of Chico Rancheria. 2021. "Culture." Accessed September 20, 2021. https://www.mechoopda-nsn.gov/culture/.

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Town of Paradise and Quad Consultants. 2008. *Town of Paradise 1994 General Plan*. Prepared for Town of Paradise Community Development Department. Amended January 2008. https://www.townofparadise.com/sites/default/files/fileattachments/planning/page/3251/townofparadise-generalplan_1994.pdf.

3.18 Utilities and Service Systems

This section describes the environmental setting and regulatory framework for utilities and service systems, and it identifies direct and indirect impacts of the Proposed Project during construction, operation, and maintenance on utilities and service systems. In particular, the utilities and service systems analysis focuses on energy and electric infrastructure (electric substations and transmission lines), telecommunications (cable, telephone or broadcasting infrastructure), water supply and services, wastewater facilities, and solid waste services (waste facilities and disposal sites) within the study area. For the purposes of this PEIR, the study area for utilities and service systems refers to the areas within and directly adjacent to the Town and areas of unincorporated Butte County and the City where the proposed pipeline alignment runs, and the utility service areas within these jurisdictions.

3.18.1 Environmental Setting

This section describes the utilities in the County as a whole, followed by the existing utilities in the Town and the City. Utilities and service systems within the study area are discussed and organized by jurisdiction (Butte County, Town of Paradise, and City of Chico). Electric infrastructure is discussed regionally, as the transmission lines span these respective jurisdictions. Landfills are also discussed regionally given that many are available for use by multiple jurisdictions. Telecommunication and fiber optic services are provided by private companies in the County. Table 3.18-1 summarizes utility providers in the County, the Town, and the City. These services are described in further detail in the following sections.

Table 3.18-1. Summary of Utility Providers in the Study Area

Utility Service	Butte County	Town of Paradise	City of Chico
Water	___	Paradise Irrigation District	California Water Service
Wastewater	___	Septic Systems	Chico WPCP
Energy	PG&E Western Area Power Administration Western Electricity Coordinating Council	PG&E	PG&E
Solid Waste and Recycling	Neal Road Recycling and Waste Facility	Northern Recycling and Waste Services (residential waste services)	North Valley Waste Management (residential waste services)
Household Hazardous Waste	Butte Regional Household Hazardous Waste Facility Recology	Paradise Household Hazardous Waste Collection Facility	Butte Regional Household Hazardous Waste Facility
Fiber Optic	Private Companies	Private Companies	Private Companies
Telecommunication	Private Companies	Private Companies	Private Companies

3.18.1.1 Butte County Utilities and Service Systems

The proposed Export Pipeline System would follow several Western Electricity Coordinating Council transmission lines, a 60 kilovolt (kV) PG&E transmission line, 115kV PG&E transmission line, 500kV PG&E transmission line, and Western Area Power Administration 203kV transmission line. The

Western Electricity Coordinating Council is a non-profit corporation that exists to assure a reliable Bulk Electric System in the geographic area known as the Western Interconnection, which includes 2 Canadian provinces, 14 western states, and Northern Baja Mexico (Western Electricity Coordinating Council 2015). PG&E is one of the largest combined natural gas and electricity energy companies in the United States. The company provides natural gas and electric service to approximately 16 million people throughout a 70,000-square-mile service area in northern and central California (PG&E 2021). Western Area Power Administration is one of four power marketing administrations within the US Department of Energy. Their role is to market and transmit wholesale electricity from multi-use water projects. Their service area includes a 15-state region of the central and western United States (Western Area Power Administration 2021).

The County and the City have entered into a Joint Powers agreement, which intends to provide residents of the unincorporated area of the County, as well as the City, the ability to choose where they purchase their energy.

The Butte County Department of Public Works provides solid waste disposal services at the Neal Road Recycling and Waste Facility. For household hazardous waste, the County also uses the Butte Regional Household Hazardous Waste Facility in the City, as well as the Recology facility in Oroville (Butte County 2021f). Table 3.18-2 provides the capacity information for the Neal Road Recycling and Waste Facility.

Table 3.18-2. Butte County Solid Waste Landfill and Capacity Information

Landfill	Max. Permitted Throughput	Remaining Capacity	Max. Permit Capacity	Remaining Capacity Date	Unit of Measure
Neal Road Recycling and Waste Facility	1,500	20,847,970	25,271,900	7/1/2009	Tons (per day)

Source: CalRecycle 2022

3.18.1.2 Town of Paradise Utilities and Service Systems

Paradise receives a safe, dependable supply of potable water through PID. Prior to the Camp Fire, PID delivered water to approximately 11,500 municipal and residential/commercial parcels within Paradise.

Paradise's current wastewater system consists of individual, privately owned septic tanks and leach fields, together with several engineered subsurface disposal systems to serve commercial and institutional facilities. There are currently no existing connections to a centralized wastewater management facility. As discussed in Section 0, Hydrology and Water Quality, the Town operates under a NPDES Small MS4 Permit for stormwater discharges.

The Town uses Northern Recycling and Waste Services for weekly residential waste collection services and bi-weekly recycling and yard waste services (Northern Recycling and Waste Services 2010). Northern Recycling and Waste Services provides its services throughout the County, which also includes weekly commercial refuse and recycling services. In addition, the Town has a Household Hazardous Waste Collection Facility to dispose unusable hazardous products as well as a vegetative waste yard. Northern Recycling and Waste Services provides commercial and residential debris box services for recycling, yard waste, construction and demolition and solid waste. However, due to

unforeseen circumstances, the service center and Household Hazardous Waste Facilities operations are closed until further notice.

PG&E is the service provider for natural gas and electricity for the Town. PG&E is currently in the process of relocating their power lines underground in the Town to create an underground utility district.

3.18.1.3 City of Chico Utilities and Service Systems

The City receives its supply of water through California Water Service (Cal Water). For the City, Cal Water uses 68 wells to pump an average of 27 million gallons of groundwater per day. The water is then delivered to residents through 373 miles of pipeline, eight storage tanks, and nine booster pumps (Cal Water 2021).

Wastewater in the City is treated at the Chico WPCP. The Chico WPCP is a 12 mgd capacity, secondary treatment, activated sludge, wastewater plant with future expandability of up to 15 mgd (City of Chico 2021a). The Chico WPCP operates and maintains 15 sewer life pump stations that pump wastewater from areas in the City that do not have the ability to gravity flow through the wastewater collection system. For sewer water maintenance, the City currently uses a three-step program that abides by the City of Chico's Sanitary System Management Plan (City of Chico 2021e). This includes zone maintenance, camera inspection of pipelines, and regular interval maintenance. These steps will be conducted and maintained by the Chico Public Works department.

The City uses the North Valley Waste Management to provide residential solid waste and recycling services within the City limits. Household hazardous waste is accommodated by the Butte Regional Household Hazardous Waste Facility in Chico (City of Chico 2021f).

PG&E is the service provider for natural gas and electricity for the City.

3.18.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on utilities and service systems. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.18.2.1 Federal

Clean Water Act

The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The USEPA implemented pollution control programs under the CWA that sets wastewater standards for the industry.

The Proposed Project will be subject to surface water quality and wastewater standards under the CWA.

3.18.2.2 State

California Integrated Waste Management Act

The California Integrated Waste Management Act (AB 939, Sher, Chapter 1095, Statutes of 1989 as amended) made all California cities, counties, and approved regional solid waste management agencies responsible for enacting plans and implementing programs to divert 25 percent of their solid waste by 1995 and 50 percent by the year 2000. Later legislation mandates the 50 percent diversion requirement be achieved every year. In September 2016, the State Legislature set short-lived climate pollutant reduction targets for California in SB 1383. SB 1383 establishes statewide targets to reduce the amount of organic waste disposal in landfills (that is, 50% reduction by 2020 and 75% reduction by 2025).

Waste generated by the Proposed Project will be subject to the California Integrated Waste Management Act and associated targets.

3.18.2.3 Regional and Local

Town of Paradise General Plan

The Proposed Project is subject to policies, goals and actions outlined in the *Town of Paradise General Plan*. The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) includes the following policies related to utilities and service systems that are relevant to the Proposed Project:

- **Policy LUP-12:** The character of future development should be compatible with the Town's service delivery abilities and will not result in service level declines.
- **Policy LUP-13:** The Town will attempt to assure that the rate and character of growth is commensurate with, or does not exceed the current levels of public services, and will attempt to assure that municipal services can be provided to areas planned for annexation and development.

Butte County General Plan 2030

The Proposed Project is subject to policies, goals and actions outlined in the *Butte County General Plan 2030*. The *Butte County General Plan 2030* (Butte County 2012) includes the following goals and policies related to utilities and service systems that are relevant to the Proposed Project:

- **Goal PUB-9:** Provide safe, sanitary and environmentally acceptable solid waste management.
- **Goal PUB-11**: Increase recycling among Butte County residents, businesses, and public agencies.
- **Goal PUB-12:** Manage wastewater treatment facilities at every scale to protect the public health and safety of Butte County residents and the natural environment.
- **Policy PUB-P11.2**: Construction sites will provide for the salvage, reuse, or recycling of construction and demolition materials.
- **Policy W-P1.8**: The County supports conversion from septic systems to public sewer service, where feasible.
- **Policy PUB-P12.4**: New sewer collection and transmission systems will be designed and constructed to minimize potential inflow and infiltration.

- **Policy PUB-P13.4**: Installation of sewer lines will occur concurrently with construction of new roadways to maximize efficiency and minimize disturbance from construction activity.
- **Policy HS-P15.2**: Critical emergency response facilities such as fire, police, emergency service facilities and utilities will be sited to minimize their exposure to flooding, seismic effects, fire, or explosion.

Chico 2030 General Plan

The Proposed Project is subject to policies, goals and actions outlined in the *Chico 2030 General Plan*. The *Chico 2030 General Plan* (City of Chico 2017) includes the following policies related to utilities and service systems that are relevant to the Proposed Project:

- **Goal PPFS-4:** Maintain a sanitary sewer system that meets the City's existing and future needs, complies with all applicable regulations, and protects the underlying aquifer.
- **Goal PPFS-8:** Ensure that solid waste and recyclable collection services are available to City residents.
- **Policy SUS-3.3, Municipal Waste Reduction**: Reduce consumption and increase recycling and reuse of materials in City operations.
- **Policy PPFS-4.1, Sanitary Sewer System**: Improve and expand the sanitary sewer system as necessary to accommodate the needs of existing and future development.
- **Policy PPFS-4.3, Capacity of Water Pollution Control Plant**: Increase system capacity by reducing wet weather infiltration into the sanitary sewer system.
- **Policy PPFS-4.4, Wastewater Flows**: Ensure that total flows are effectively managed within the overall capacity of the Water Pollution Control Plant.

3.18.3 Method of Analysis

This section describes the methods used to analyze utilities and service systems within the study area.

3.18.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on utilities and service systems if it would:

- **Impact UTIL-1:** Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects
- **Impact UTIL-2:** Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years
- Impact UTIL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the Project, that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments
- **Impact UTIL-4:** 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
- **Impact UTIL-5:** Comply with federal, state, and local management and reduction statutes and regulations related to solid waste

3.18.3.2 Approach to Analysis

Construction, Operation and Maintenance

Impacts on utilities and service systems were identified qualitatively based on the Proposed Project's potential to disturb or stress the capacity of existing utility/service infrastructure such as, water supply, wastewater, storm water, electric power, natural gas, and solid waste. For the purposes of this resource analysis, information was collected on utility providers and service systems and using the following sources:

- Butte County and City of Chico websites (Butte County 2013; City of Chico 2021a, 2021e)
- PID website (PID 2021)
- Northern Recycling Waste Services website (Northern Recycling and Waste Services 2010)
- CEC's California Electric Infrastructure interactive GIS map (CEC 2021c)
- *Butte County General Plan 2030* (Butte County 2012)
- *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008)
- *Chico 2030 General Plan* (City of Chico 2017)

The analysis of environmental effects focuses on foreseeable changes to utilities and service systems in the context of effects listed in Section 3.18.3.1, CEQA Significance Criteria. The analysis considers the Core Collection System, Export Pipeline System, and Extended Collection System, as appropriate, in the context of construction, operation, and maintenance.

The following methods were used to evaluate the potential impacts from construction, operation, and maintenance of the Proposed Project on utilities and service systems:

- Use of GIS data provided by CEC, which shows the location of electric substations, transmission lines, and electric transmission lines, to pinpoint the location of electric infrastructure within the study area.
- Analysis of construction methods, ROW, and staging areas.
- Analysis of the Project's consistency with the requirements of all plans, policies, and regulations listed in Section 3.18.2, Regulatory Framework.

3.18.4 Impact Analysis

This section describes the environmental impacts on utilities and service systems as a result of implementation of the Proposed Project. The impact analysis for utilities and service systems focuses on construction of the Proposed Project because the components have the potential to disturb existing utility infrastructure during ground disturbing activities, require the use of water supplies, and generate solid waste and wastewater.

3.18.4.1 Impact UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause

significant environmental effects (Less than Significant Impact with Mitigation Incorporated)

Construction

The Chico WPCP is an established secondary treatment, activated sludge, wastewater plant that has an existing capacity of 12 mgd with future expandability of up to 15 mgd (Section 2.4.2 Chico Water Pollution Control Plant; City of Chico 2021a). The annual average flow coming into the Chico WPCP currently is 6.3 mgd (Chico WPCP monitoring data, RWQCB 2021). The Proposed Project would add an additional 0.109 mgd of wastewater to the Chico WPCP influent at the time of initial connection (estimated for 2026) and a maximum of 0.464 mgd at full build-out (estimated for 2057) and would not increase or decrease the availability of sewer service within the City or County. The *Regionalization Planning Report for the Paradise Sewer Project* determined that the Chico WPCP has adequate capacity to serve the Proposed Project's projected demand and commitments, in addition to serving the City's service area within its jurisdictional boundaries (Carollo Engineers 2022). This would include the remaining approximately 3,000 parcels that are not currently connected to the City's sewer infrastructure but fall under the *Chico Urban Area Nitrate Compliance Plan* which calls for the termination of all on-site septic systems as a contributor to ground water nitrate contamination (http://www.buttecounty.net/administration/Nitrate-Compliance-ProgramButte County 2000). Based on these factors, the Proposed Project would not stress the capacity of the current system. Therefore, the Proposed Project would not require the construction or relocation of wastewater facilities, nor would it require expansion of the existing Chico WPCP facility.

The proposed Export Pipeline System would follow several Western Electricity Coordinating Council transmission lines, 60kV PG&E transmission line, 115kV PG&E transmission line, 500kV PG&E transmission line, and Western Area Power Administration 203kV transmission line. The proposed pipeline alignment would generally offset powerlines when in parallel to them and when crossing, would cross at a right angle and in between the powerline poles to avoid physical disruptions. Relocation of transmission lines would therefore not be required.

The Proposed Project also involves a fiber-optic conduit as a part of the Export Pipeline System. The Proposed Project would have two below-ground structures along the Export Pipeline System, namely the transition chamber and the flow control and metering structure. These structures would have electrical instruments that will monitor various items, such as water levels, valve positions, and wastewater flow rate. To reliably communicate the signals from those electrical instruments to Paradise and the Chico WPCP, the Proposed Project would install a 2-inch-diameter metal fiber-optic conduit in the same trench as excavated for the Export Pipeline System. The conduit would be placed above the pipelines and would not require additional ground disturbance. The fiber optic cable would be owned and operated by the Town of Paradise and would not interfere with existing fiber optic cables.

There is potential that groundwater would be encountered during construction of the Core Collection System, the Export Pipeline System, and the Extended Collection System. Construction work would also occur around waterbodies. The Proposed Project would involve trenchless crossings underneath Butte Creek, Comanche Creek, and Little Chico Creek via HDD methods. The crossings would be required to have a minimum depth of 20 feet below the waterbody with a launching and receiving pit on either end of the crossing. As discussed in Section 2.5.2 Export Pipeline System, and shown in

Figure 2-12 Typical HDD Installation, there would be an approximate 10- by 5-foot launching and receiving pit and additional protected space on either end of the waterbody. As discussed in Section 0 Hydrology and Water Quality, a SWPPP that includes water quality BMPs will be implemented to prevent water quality degradation and environmental impacts during construction.

Nevertheless, because utilities could be affected during construction of the Proposed Project, with the potential for disruption of utility service, this impact would be significant.

Mitigation. To minimize potentially significant impacts on utility infrastructure during construction of the Proposed Project to a less than significant level, mitigation measure **MM-UTIL-1** will be implemented.

MM-UTIL-1: Minimize Utility and Service System Disruptions. During final design, to minimize disruptions to utility services, the Town will prepare a Utility Conflict and Coordination Plan that identifies outages that could affect residents and businesses, including fiber-optic/communications, water, power, and gas. As part of that plan, the public and stakeholders will be notified by signage and on Town's website of any potential service interruptions at least 2 weeks prior to construction work.

Significance after Mitigation*.* With implementation of **MM-UTIL-1**, impacts on utility infrastructure during construction would be less than significant.

Operation and Maintenance

Long-term utility usage would be expected to be similar to pre-Camp Fire levels and within the approved capacities for these services. This would not be a displacement or relocation of utilities, but rather part of the Town's recovery efforts.

Operations and maintenance activities such as the inspection of the Core Collection System, Extended Collection System, Export Pipeline System, and associated instrumentation would occur periodically throughout the year and would be minimally invasive. As required, the pipelines would be flushed to push deposited material farther down the pipelines and ultimately into the Chico WPCP, which is within the permitted capacity for the Chico WPCP. As discussed under *Construction*, above, the fiber optic cable would be owned and operated by the Town and would not interfere with existing fiber optic cables during operations and maintenance. Flow measurement data would be transmitted via radio or fiber-optic lines; therefore, visits would not be required to obtain data.

Based on these factors, there would be no relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities during operation and maintenance and thus, no impact.

Mitigation*. No mitigation required.*

3.18.4.2 Impact UTIL-2: Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years (No Impact)

Construction, Operation, and Maintenance

Potable water in the Town is provided by PID. Water supply required during construction of the Proposed Project will be the responsibility of the construction contractor and would only be required

temporarily for the duration of the construction period. Water would be required for such activities as dust suppression, equipment washing, or contractor potable and non-potable water needs. Water use during operations and maintenance would periodically involve flushing activities, flow monitoring, and flow data and wastewater sampling, as described in Section 2.8, Proposed Operation and Maintenance. No potable water would be required during operation and maintenance of the Proposed Project. There would be no impact on water supply.

Mitigation. No mitigation required.

3.18.4.3 Impact UTIL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the Project, that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments (No Impact)

Construction

Wastewater would be generated during the construction of the Export Pipeline System, Core Collection System, and Extended Collection System. Water encountered during pit excavation would be placed into a settling tank before being trucked to a nearby sewer main for discharge. Perched water and nuisance water encountered in trenches during construction of the Core Collection System and Extended Collection System would be collected via sump pump to a Baker Tank for settling and reused for truck dust control. As a result, there would be no impact during construction.

Mitigation. No mitigation required.

Operation and Maintenance

Once operational, the Proposed Project would not include changes to the Chico WPCP service area other than the addition of the Core and Extended Collection Systems in the Town. For the purpose of this analysis, both the Core and Extended Collection System would be within the current capacity of the Chico WPCP. The annual average flow coming into the Chico WPCP is 6.3 mgd (Chico WPCP monitoring data, RWQCB 2021); the facility is licensed to treat 12 mgd with future expandability of up to 15 mgd (City of Chico 2021a). The Proposed Project would add an additional 0.464 mgd of wastewater over the 30-year planning horizon to the system during operations; therefore, the Chico WPCP can accommodate current and future estimated growth (Section 2.4.2 Chico Water Pollution Control Plant).

Additionally, during the initial years of the project when fewer connections have been made to the system and wastewater flows are low, the pipelines may be periodically flushed to push deposited material farther down the pipelines and ultimately into the Chico WPCP. The quantity of flushing water would be kept within the allowable discharge to the Chico WPCP (2.8 Proposed Operation and Maintenance). Therefore, the Chico WPCP has adequate capacity to serve the Proposed Project needs and there would be no impact on existing wastewater commitments.

Mitigation. No mitigation required.

3.18.4.4 Impact UTIL-4: 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? (No Impact)

Construction

Solid waste including construction debris, soil and asphalt would be generated during construction of the Core Collection system, Extended Collection System, and the Export Pipeline System. About 169,400 cubic yards of soil would be exported during construction of the Core Collection System. The Export Pipeline System would produce an anticipated 60,800 cubic yards of soil to be exported. Solid waste and construction debris would be transported to a local landfill or another approved location. Waste could be accommodated by the Neal Road Recycling and Waste Facility in Section 3.18.1. The Proposed Project will comply with both State and local solid waste standards during construction and there would be no impact from solid waste generation.

Mitigation. No mitigation required.

Operation and Maintenance

Project operation and maintenance would not generate additional solid waste. The Proposed Project has the potential to foster population regrowth as a result of Camp Fire recovery efforts; long-term landfill usage would be similar to pre-Camp Fire levels and within the approved capacities.

Under existing conditions, the majority of the 11,500 parcels in the Town use septic tanks. Individual septic tanks in the Town hold approximately 3,000 gallons of septage, and they are pumped out approximately once every 5 years. Septage from the Town is currently hauled to a receiving station at the Neal Road Recycling and Waste Facility and NorCal Environmental Solutions. Once the Proposed Project is operational, the 1,500 parcels connecting to the Core Collection System would no longer require septage disposal at these landfills, which could result in beneficial impacts on solid waste generation in the Town. Chico WPCP produces biosolids, however, these biosolids are not transported to a landfill for disposal. Rather, they are placed back into the environment and recycled in land use applications. Therefore, the Proposed Project would comply with both State and local solid waste standards during operation, and maintenance. There would be no impact as it relates to solid waste generation 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.

Mitigation. *No mitigation required.*

3.18.4.5 Impact UTIL-5: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? (No Impact)

Construction, Operation, and Maintenance

The Proposed Project complies with federal, state, and local management and reduction statutes and regulations related to solid waste that have been identified in the Section 3.18.2, Regulatory Framework. Additionally, all construction-generated solid waste would be transported to an approved landfill or other approved location, such as a compost facility licensed for biosolids. Table 3.18-3 provides a consistency analysis of these local management and reduction statues and regulations. Therefore, there would be no impact during construction, operation and maintenance and no mitigation required.

Table 3.18-3. Consistency with State and Local Plans, Policies, and Regulations

Goals and Policies	Project Consistency
California Integrated Waste Management Act (AB 939)	**Consistent**. The Proposed Project will follow all relevant County and local solid waste management programs and regulations. These include *Butte County General Plan 2030*, *Town of Paradise General Plan*, *Chico 2030 General Plan*, and City of Chico Sanitary System Management Plan.
Butte County General Plan 2030	
Goal PUB-9: Provide safe, sanitary and environmentally acceptable solid waste management.	**Consistent**. The Proposed Project intends to construct a new sewer collection system that would reduce public health and environmental concerns caused by the existing failed septic system. Additionally, waste could be accommodated by Butte County landfills listed in Section 3.12.1. All solid waste and construction debris will be transported to a local landfill or another approved location. Project operations would not generate additional solid waste.
Goal PUB-11: Increase recycling among Butte County residents, businesses, and public agencies.	**Consistent.** The Proposed Project intends to construct a new a sewer collection system that is more efficient and safer for Paradise residents. Existing recycling services and practices would not be impacted and would remain the same as existing conditions in Butte County.
Policy PUB-P11.2: Construction sites will provide for the salvage, reuse, or recycling of construction and demolition materials.	**Consistent.** Waste could be accommodated by Butte County landfills listed in Section 3.12.1. All solid waste and construction debris will be transported to a local landfill or another approved location. Where possible, construction and demolition materials will be recycled, reused or salvaged. Project operations would not generate additional solid waste.
Town of Paradise General Plan	
Policy LUP-12: The character of future development should be compatible with the Town's service delivery abilities and will not result in service level declines.	**Consistent.** The new sewer collection system would not result in service level decline, rather it would provide improved sewer services for 1,500 parcels in Paradise. Once the Proposed Project is operational, the 1,500 parcels connecting to the Core Collection System would no longer require septage disposal at local landfills, which could result in beneficial impacts on solid waste generation and sewer service levels in the Town.
Policy LUP-13: The Town will attempt to assure that the rate and character of growth is commensurate with or does not exceed the current levels of public services, and will attempt to assure that municipal services can be provided to areas planned for annexation and development.	**Consistent.** The Proposed Project has the potential to foster population regrowth as a result of Camp Fire recovery efforts which could place an additional demand on existing utility services. However, long-term utility usage would be expected to be similar to pre-Camp Fire levels and within the approved capacities for these services.
Chico 2030 General Plan	
Goal PPFS-8: Ensure that solid waste and recyclable collection services are available to City residents.	**Consistent**. The Proposed Project intends to construct a new a sewer collection system that is more efficient and safer for Town residents. Existing solid waste and recyclable collection services would not be impacted and would remain the same and available to City residents.

Mitigation. *No mitigation required.*

3.18.5 Impacts Summary

Table 3.18-4 summarizes the utilities and service systems impacts of the Proposed Project.

Table 3.18-4. Utilities and Service Systems Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects	S/M	MM-UTIL-1	LTS
Impact UTIL-2: Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years	NI	N/A	NI
Impact UTIL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the Project, that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments	NI	N/A	NI
Impact UTIL-4: 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	NI	N/A	NI
Impact UTIL-5: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste	NI	N/A	NI

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

3.18.6 References

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Western Electricity Coordinating Council. 2015. “About WECC.” Accessed October 2021. https://www.wecc.org/Pages/home.aspx.

3.19 Wildfire

This section describes the environmental setting and regulatory framework for wildfire, and it identifies direct and indirect impacts of the Proposed Project during construction, operation, and maintenance. In particular, the wildfire analysis focuses on emergency response and evacuation, wildfire risk and hazards in the study area that may be exacerbated as a result of the Proposed Project's construction, and operation, and maintenance. The study area for wildfire refers to the areas within and directly adjacent to the Town and areas of unincorporated Butte County and the City where the proposed pipeline alignment would run.

3.19.1 Environmental Setting

The County encompasses over 1.1 million acres and is located at an elevation ranging between 60 feet to 7,000 feet above sea level (Butte County 2020). Approximately 52 percent of the County is designated SRA, and approximately 14 percent is designated Federal Responsibility Area (FRA) (Butte County 2020). Public lands primarily include parts of Lassen National Forest and the Plumas National Forest. The remaining 34 percent of the County is located in a LRA (Butte County 2020). Wildfires are common in the LRA, which poses a significant threat to the adjacent SRA.

The Core Collection System and Extended Collection System are located in a LRA Very High FHSZ (CALFIRE 2008). Farther south of the Town, the Export Pipeline traverses Very High, Moderate and High FHSZs in the SRA. The Chico WPCP is located in a LRA Non-Very High FHSZ.

Vegetation is generally grouped into three fuel types, including grass, brush, and timber. Numerous factors such as fuel type and size, loading (tons/acre), arrangement (vertical and horizontal), chemical composition, and dead and live fuel moisture, contribute to the flammability characteristics of vegetation (Butte County 2020). In the County, the valley and lower foothills (up to approximately 1,000 feet in elevation) are covered by the grass fuel types, which is the main carrier of fire. The mid-foothill and lower mountain areas (approximately 1,000 feet to 2,000 feet in elevation) are dominated by brush, which burns readily and can be difficult to control particularly on steep topography and when moisture content reaches critical levels. The mountainous areas (above approximately 2,000 feet in elevation) are generally covered by the timber fuel types, which burn readily and are difficult to control on steep topography and during strong wind events (Butte County 2020).

The County has a Mediterranean climate characteristic of hot, dry summers, and cool, wet winters. Occasionally during the summer, dry weather fronts will approach northern California bringing increased wind speeds from the south. Typically, annually in the autumn months, north wind events bring high temperatures, very low humidity, and strong winds. These conditions usually produce red flag warnings, which provide the highest potential for extreme fire behavior. These conditions in combination with fuels, already at their driest moisture content, can create a severe fire weather situation (Butte County 2020).

The responsibility for the prevention and suppression of wildfires within the County belongs to the BCFD/CALFIRE and to individual municipalities (Butte County 2012).

3.19.1.1 Local Setting

Wildland Urban Interface

Paradise

The Town is located in a LRA Very High FHSZ (CALFIRE 2008). Areas directly surrounding the Town are located in an SRA and zoned Very High FHSZ. The Town is characteristic of an urban interface environment where wildland abruptly adjoins housing and the population is approximately 4,500. However, prior to the Camp Fire the population was approximately 27,000 (DOF 2021a).

Emergency access and evacuation is a concern in the Town due to the limited narrow roads. To mitigate traffic issues during an evacuation, several miles of Skyway have been reconstructed and paved from Stirling City to Butte Meadows as a possible additional evacuation route. Emergency response in the Town is provided by CALFIRE/BCFD, PFD, and Paradise Fire Safe Council (Butte County 2020).

Chico

The City is located in a LRA Non-Very High FHSZ (CALFIRE 2008). Critical infrastructure within the City includes a UPRR main line, an underground petroleum pipeline, state highways and high voltage power lines. The 3,670-acre Bidwell Park located near the center of the city also has high potential for urban/wildland interface. Home development in the City has substantially increased in recent years and a large area of the city can be characterized as urban interface environment where the wildland abruptly adjoins high density housing. The BCFD/CALFIRE and CFD provide fire protection in the City and the unincorporated areas in and immediately surrounding the City (Butte County 2020).

Topography

Paradise

The Town ranges in elevation from approximately 1,000 to 2,300 feet and is located on a broad gently sloping ridge. There are numerous steep canyons near the perimeter of the Town. Butte Creek Canyon, bordering to the west, and the West Branch of the Feather River, bordering to the east, are the two largest canyons surrounding the Town and are most influential on fire behavior. Nance, Hamlin, Berry, Clear Creek, and Dry Creek Canyons are smaller north-south trending canyons located along the southern border of the Town. These small canyons are less prominent but are still very influential on fire behavior (Butte County 2020).

Chico

The City is predominantly flat and is located at an elevation of 197 feet. The western trending foothills in the City rise at a slope of approximately 15 percent. Big Chico Creek and Little Chico Creek traverse the City and the Lindo Channel acts as the major drainage for flood control. Other creeks traversing the city include Mud Creek, Sycamore Creek, Comanche Creek, Dead Horse Slough, and Butte Creek (Butte County 2020).

Weather and Fire History

Paradise

In the Town, seasonal weather patterns do not vary significantly from seasonal averages; average rainfall is 32 inches per year (Weather Atlas 2022a). As a result, extreme weather conditions have not been the primary factor in large fires within the area historically. However, weather outside of the Town limits has great potential to have an impact on fire behavior, thereby driving fire into the Town. In June

2008, a 23,000-acre fire in Humboldt burned 57 acres within the Town. Conditions under the Humboldt Fire were intensified by high winds. In 2018, the Camp Fire burned approximately 153,000 acres, over 18,000 buildings, and resulted in 85 fatalities (Butte County 2020).

Chico

The City is lower in elevation; the average annual rainfall is approximately 28 inches per year (Weather Atlas 2022b). In the summer, temperatures range from high to very high (above 100 °F), low humidity and light to moderate south winds associated with high pressure weather gradients.

The highest potential for extreme fire behavior occurs during north wind events that produce red flag warnings conditions. Wind is the primary factor resulting in large fire spread in the City. Historically, large fires in or near the City have included the Skyway Fire, which burned 425 acres in 2006, and the Humboldt Fire, described above (Butte County 2020).

Fuels

Paradise

Fuel loading in the Town was significantly reduced after the Camp Fire; however, conditions allow for regrowth of native and non-native (invasive) plant species. There are a wide range of vegetation types in the Town, ranging from chaparral brush mix and oak woodland to mixed-conifer timber. An overstory of ponderosa pine/California black oak mix, with an understory of chaparral brush component consisting of manzanita, ceanothus, scotch broom, and poison oak make up the lower elevations of the Town. Greenbelt areas and undeveloped areas also consist of regrowth brush, which has the potential to affect fire behavior. In addition to regrowth brush, the potential for invasive species is high. These vegetation types present fire risk and may lead to fuel driven fires in the Town (Butte County 2020).

Chico

The City is predominantly covered by grasses, planted trees, and brush. The areas surrounding the City and eastern parts of the City that extend to the foothills are covered primarily by annual grasses, oak woodland, and chapparal brush mix. These are considered light to medium fuels. The drainage areas in many of the City's channels are non-native weed Arundo. These fuel types combined with recent structural development and flat topography create fire suppression hazards given their ability to readily support ignition and fire spread, particularly under windy conditions (Butte County 2020).

3.19.2 Regulatory Framework

This section summarizes the federal, state, regional, and local laws, regulations, policies, and plans relevant to evaluation of the Proposed Project's impacts on wildfire. Additional information on the relevant regulations, laws, and plans is provided in Appendix C, Regulatory Framework.

3.19.2.1 Federal

The National Strategy

The Federal Land Assistance, Management, and Enhancement Act of 2009 (FLAME Act) directed the U.S. Department of the Interior (DOI) and U.S. Department of Agriculture (USDA) to develop a national cohesive wildland fire management strategy to comprehensively address wildland fire management across all lands in the United States. The DOI and USDA committed to a three-phased planning and analysis effort to thoroughly examine and address the complexities of wildland fire management. *The*

National Strategy: The Final Phase in the Development of the National Cohesive Wildland Fire Management Strategy (National Strategy) (DOI and USDA 2014) is the result of a collaborative effort by Federal, state, local, and tribal governments and nongovernmental partners and public stakeholders, in conjunction with scientific data analysis. The National Strategy recognizes and accepts fire as a natural process necessary for the maintenance of many ecosystems and strives to reduce conflicts between fire-prone landscapes and people (DOI and USDA 2014). Specifically, the National Strategy identifies the following primary goals:

- **Restoration and maintenance of landscapes:** Landscapes across all jurisdictions are resilient to fire-related disturbances in accordance with management objectives.
- **Fire-adapted communities:** Human populations and infrastructure can withstand a wildfire without loss of life and property.
- **Wildfire response:** All jurisdictions participate in making and implementing safe, effective, efficient risk-based wildfire management decisions.

The National Strategy guides federal direction for the state and local agencies responsible for fire protection in the vicinity of the Proposed Project.

The Proposed Project will be held to the goals of the National Strategy.

FEMA Grants – Town of Paradise Wildfire Mitigation Projects

The Town has applied to FEMA through the California Office of Emergency Services for four grants under FEMA's Hazard Mitigation Grant Program Post-Fire Assistance (FEMA 2022). The Town is proposing four wildfire mitigation projects to enhance fire safety and mitigate the threat of wildfire. The purpose of the proposed projects is to protect people and property by reducing wildfire-related hazards within the Town. The projects would implement wildfire mitigation measures throughout the Town, through a combination of enhanced enforcement, education, and incentives to help property owners reduce hazards on their own lands and reduce hazardous fuels on Town rights-of-way. The four projects include the following: (1) enhancing code enforcement activities to manage hazardous fuels and defensible space, (2) introducing a residential ignition-resistant improvement and defensible space program, (3) hazardous fuel reduction along Town rights-of-way, and (4) removing hazardous dead or dying trees on private properties (FEMA 2022).

The Proposed Project will be held to the requirements of FEMA's Hazard Mitigation Grant Program.

3.19.2.2 State

2018 Strategic Fire Plan for California

The *2018 Strategic Fire Plan for California*, developed by the State Board of Forestry and Fire Protection, provides direction and guidance to CALFIRE and its 21 field units. This plan sets forth a number of goals focused on fire prevention, natural resource management, and fire suppression efforts, including the following (CALFIRE 2018):

- Improve the availability and use of consistent, shared information on hazard and risk assessment.

- Promote the role of local planning processes, including general plans, new development, and existing developments, and recognize individual landowner/homeowner responsibilities.
- Foster a shared vision among communities and the multiple fire protection jurisdictions, including county-based plans and community-based plans such as community wildfire protection plans.
- Increase awareness and actions to improve fire resistance of human-made assets at risk and fire resilience of wildland environments through natural resource management.
- Integrate implementation of fire and vegetative fuels management practices consistent with the priorities of landowners or managers.
- Determine and seek the needed level of resources for fire prevention, natural resource management, fire suppression, and related services.
- Implement needed assessments and actions for post-fire protection and recovery.

The 2018 Strategic Fire Plan for California guides CALFIRE oversight of local agencies' responsibilities for fire protection and natural resource management in the vicinity of the Proposed Project.

The Proposed Project will be held to the goals set forth by the 2018 Strategic Fire Plan.

Community Wildfire Prevention and Mitigation Report

CALFIRE prepared the *Community Wildfire Prevention & Mitigation Report* in response to Executive Order N-05-19, which directed CALFIRE, in consultation with other state agencies and departments, to recommend immediate, medium-term, and long-term actions to help prevent destructive wildfires, with a specific focus on vulnerable communities and populations in the state (CALFIRE 2019). Based on local fire plans developed by CALFIRE units, CALFIRE identified 35 priority projects for immediate implementation to help reduce public safety risks for more than 200 communities. Projects include removal of hazardous dead trees, vegetation clearing, creation of fuel breaks and community defensible spaces, and creation of ingress and egress corridors. The *Community Wildfire Prevention & Mitigation Report* also identifies near-term administrative, regulatory, and policy actions to address community vulnerability and wildfire fuel buildup through rapid deployment of resources.

CALFIRE's identified medium-term and long-term actions encourage coordination and cooperation among the various levels of regional and local fire protection agencies.

The Proposed Project would be held to the strategies in the Community Wildfire Prevention & Mitigation Report.

California Fire Code

The California Fire Code (CCR Title 24, Part 9) establishes minimum requirements to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings. Chapter 33 of the code contains requirements for fire preserving safety during construction, such as to develop a pre-fire plan in coordination with the fire chief, maintain vehicle access for firefighting at construction sites, and meet requirements for safe operation of construction equipment powered by internal combustion engines.

The Proposed Project will be held to the requirements set forth by the California Fire Code.

CALFIRE's Fire Hazard Severity Zone Mapping

CALFIRE is required by law to identify areas, referred to as FHSZs, based on the severity of fire hazard that is expected to prevail there. The FHSZ maps are developed using a science-based, field-tested computer model that assigns a hazard score based on the factors that influence fire likelihood and fire behavior. The FHSZ maps are developed based on factors such as fire history, existing and potential fuel (natural vegetation), predicted flame length, blowing embers, terrain, and weather (CALFIRE 2022).

SRAs are defined as areas where the State of California has financial responsibility for wildland fire protection and prevention; incorporated cities and federal ownership are not included. Within SRAs, CALFIRE is responsible for fire prevention and suppression (CALFIRE 2022). The Board of Forestry and Fire Protection classifies lands as SRA. All SRAs are within a FHSZ. There are three levels of hazard in the SRAs: moderate, high, and very high (CALFIRE 2022).

LRAs are defined as incorporated cities, urban regions, agricultural lands, and portions of the desert where the local government is responsible for wildfire protection. This is typically provided by city fire departments, fire protection districts, counties, and by CALFIRE under contract (CALFIRE 2022). CALFIRE uses an extension of the SRA FHSZ model as the basis for evaluating fire hazard in LRAs. The LRA hazard rating reflects flame and ember intrusion from adjacent wildlands and from flammable vegetation in the urban area.

FHSZ maps evaluate wildfire hazards, which are the physical conditions that create a likelihood and expected fire behavior over a 30 to 50-year period without considering short-term modifications such as fuel reduction effort (CALFIRE 2022). FHSZ maps can be used for the following purposes: implementing wildland-urban interface building standards for new construction, natural hazard real estate disclosure at time of sale 100-foot defensible space clearance requirements around buildings, and property development standards such as road widths, water supply, and signage consideration in city and county general plans (CALFIRE 2022).

The Proposed Project will be held to the restrictions associated with FHSZ mapping.

3.19.2.3 Regional and Local

Butte County Local Hazard Mitigation Plan Update

The *Butte County Local Hazard Mitigation Plan Update* (Butte County 2019b) includes an assessment of the county's risk and vulnerability related to natural and other identified hazards and a comprehensive mitigation strategy which includes actions and projects designed to mitigate or reduce the impacts of those hazards and to increase community resiliency.

The Proposed Project will be held to the strategies in the *Butte County Local Hazard Mitigation Plan Update*.

Butte County General Plan 2030

The *Butte County General Plan 2030* (Butte County 2012) includes the following goals and policies related to wildland fires that are relevant to the Proposed Project:

- **Goal HS-11**: Reduce risks from wildland fire and urban fire.

- **Policy HS-P11.1**: Fire hazards will be considered in all land use and zoning decisions, environmental review, subdivisions review and the provision of public services.
- **Policy HS-P11.2**: Create communities that are resistant to wildfire by supporting the implementation of community wildfire protection plans and wildfire fuel load reduction measures in coordination with the appropriate government, community group, or non-profit organization and California Department of Forestry and Fire Protection (CALFIRE).
- **Policy HS-P11.3**: The County supports the Wildfire Mitigation Action Plan, the Butte County Local Hazard Mitigation Plan (LHMP), and the Butte Unit Community Wildfire Protection Plan prepared by CALFIRE and will cooperate with the Butte County Fire Department and the Butte County Fire Safe Council in implementing these plans.
- **Policy HS-P11.4**: New development projects will meet current fire safe ordinance standards for adequate emergency water flow, emergency vehicle access, signage, evacuation routes, fuel management, defensible space, fire safe building construction and wildfire preparedness.
- **Goal HS-12**: Protect people and property from wildland or urban fires.
- **Policy HS-P12.4**: All development projects in wildland urban interface areas in High or Very High Fire Hazard Severity Zones will provide, at a minimum, small-scale water systems for fire protection.
- **Goal HS-13**: Identify safe and effective evacuation routes and access for fire prevention and suppression
- **Policy HS-P13.1**: New development in High or Very High Fire Hazard Severity Zones, as shown in Figure HS-9, shall identify access and egress routes and make improvements or contribute to a fund to develop upgrade and maintain these routes.

The Proposed Project will be held to the goals and policies in the *Butte County General Plan 2030*.

Butte County Multi-Jurisdictional All Hazard Pre-Disaster Mitigation Plan

The *Butte County Multi-Jurisdictional All Hazard Pre-Disaster Mitigation Plan* (Butte County 2007) was developed by Butte County and participating jurisdictions (City of Biggs, City of Chico, City of Gridley, City of Oroville, and Town of Paradise) to meet the requirements of the Disaster Mitigation Act of 2000. This plan represents the commitment of Butte County and participating jurisdictions to reduce risks from natural and other hazards and serves as a guide for decision-makers as they commit resources to reducing the effects of natural and other hazards. The overall intent of this plan is to reduce or prevent injury and damage from hazards in the county. It identifies past and present mitigation activities, current policies and programs, and mitigation strategies for the future.

The Proposed Project will be held to the strategies in this plan.

Butte County Community Wildfire Protection Plan 2020–2025

The *Butte County Community Wildfire Protection Plan 2020–2025* (Butte County 2020) was developed by federal, State, and local agencies in order to identify and prioritize pre-fire and post-fire management strategies and tactics meant to reduce the loss of value at risk within the County. The plan establishes a framework for reducing the risks associated with wildfire by placing emphasis on what needs to be done before the fire starts. The plan strives to reduce firefighting costs and property losses, increase firefighter safety, and to enhance ecosystem health (Butte County 2020).

The Proposed Project will be held to the strategies in the *Butte County Community Wildfire Protection Plan*.

Town of Paradise General Plan

The *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008) includes the following policies related to wildland fires that are relevant to the Proposed Project:

- **Goal SG-1:** Assure that law enforcement and fire protection services are enhanced sufficiently to meet the demands of new and existing land use development.
- **Policy SP-1:** New and unmitigated land use development will not cause the police and fire protection services emergency response times to full below the service levels established by this plan.
- **Policy SP-2:** Through the development review process, adequate roads will be required to be constructed and/or improved for emergency vehicle access, particularly in high wildland fire hazard areas.
- **Policy SP-3:** Future development should be designed and constructed to take maximum advantage of known fire and crime prevention siting, orientation and building techniques.
- **Policy SP-5:** The Town should promote fire prevention by continuing to require brush removal and fuel load clearing as ongoing conditions of development approval and property maintenance.
- **Implementation Measure SI-6:** Enforce and comply with the provisions of the Unform Building Code and Uniform Fire Code.

The Proposed Project will be held to the goals, policies, and implementation measures in the *Town of Paradise General Plan*.

Town of Paradise Emergency Operations Plan

The purpose of the *Town of Paradise Emergency Operations Plan* (Town of Paradise 2011), its Functional Annexes and Hazard/Threat Specific Appendices is to provide the basis for a coordinated response before, during, and after a disaster incident affecting the Town. The plan is the principal guide for the Town's response to, and management of real or potential emergencies and disasters occurring within its designated geographic boundaries. It also identifies how the Town integrates into the Standardized Emergency management System and the National Incident Management System. Reducing risks from and response to wildland fire is also discussed in the plan and focuses on fuel reduction and the reduction of wildland fire to infrastructure.

The Proposed Project will be held to the strategies in this plan.

Paradise Fire Safe Council

Founded in 1999, the Paradise Fire Safe Council is comprised of volunteer community members under the umbrellas of the Butte County Fire Safe Council and the California Fire Safe Council. The council is designated under the Town of Paradise to provide community input on wildfire prevention and safety (Paradise Fire Safe Council 2008).

The Proposed Project will be held to the principles set forth by the Paradise Fire Safe Council.

Chico 2030 General Plan

The *Chico 2030 General Plan* (City of Chico 2017) includes the following policies related to wildland fires that are relevant to the Proposed Project:

- **Goal S-4**: Continue to provide effective and efficient fire protection and prevention services to Chico area residents.
- **Action S-4.1.1, Fire Response Time**: Strive to obtain an initial response time of five and a half minutes or less for at least 90 percent of fire emergency response calls in urbanized areas.
- **Action S-4.3.3, Project Design**: As part of the project review process in wildland fire areas, require consideration of emergency evacuation routes and defensible buffer areas.
- **Policy S-4.4, Vegetation Management**: Support vegetation management and weed abatement programs that reduce fire hazards.

The Proposed Project will be held to the goals and policies of the *Chico 2030 General Plan*.

3.19.3 Method of Analysis

This section describes the methods used to analyze wildfire impacts within the study area.

3.19.3.1 CEQA Significance Criteria

For the purposes of this PEIR, the Proposed Project would result in a significant impact on wildfire if it would:

- **Impact FIRE-1**: Substantially impair an adopted emergency response plan or emergency evacuation plan
- **Impact FIRE-2**: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire
- **Impact FIRE-3**: 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
- **Impact FIRE-4**: 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

3.19.3.2 Approach to Analysis

Construction, Operation, and Maintenance

Impacts on wildfire were identified qualitatively based on the Proposed Project's potential to increase wildfire occurrence and associated risks.

A desktop analysis was completed to collect and analyze data related to wildfire risks in the study area. For the purposes of this analysis, information related to wildfire risks was collected using the following sources:

- Map of Butte County Very High FHSZ in LRA (CALFIRE 2008)
- Butte County Community Wildfire Protection Plan (Butte County 2020)

The analysis of environmental effects focuses on foreseeable changes to wildfire in the context of effects listed in Section 3.19.3.1, CEQA Significance Criteria. The analysis considers the Core Collection System, Export Pipeline System, and Extended Collection System, as appropriate, in the context of construction, operation, and maintenance.

3.19.4 Impact Analysis

This section describes the potential environmental impacts on wildfire as a result of implementation of the Proposed Project. It includes an analysis of the Proposed Project's potential to the substantially impair an adopted emergency response plan or evacuation plan; exacerbate wildfire risks and expose project occupants to pollutant concentrations; require the installation or maintenance of associated infrastructure that may exacerbate fire risk; or expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes.

3.19.4.1 Impact FIRE-1: Substantially impair an adopted emergency response plan or emergency evacuation plan (Less than Significant Impact with Mitigation Incorporated)

Construction

As discussed in Section 2.7.2 Traffic Management and Temporary Construction Road Closures, no total road closures would result from implementation of the Proposed Project, other than for movement of equipment, which would be very temporary. Installation of the Export Pipeline System would occur along Skyway, which is a primary evacuation route. Closures within the ROWs would be partial; however, in the event of a wildfire, all four lanes of Skyway would be required for evacuation. Therefore, the construction area for the Export Pipeline System along Skyway could potentially interfere with the flow of evacuation traffic. As a result, the impact on an emergency response or emergency evacuation plan during construction would be significant.

Mitigation. To minimize potentially significant impacts on emergency response or emergency evacuation plan during construction of the Proposed Project to a less than significant level, mitigation measures **MM-HAZ-3**, **MM-HAZ-4**, **MM-HAZ-5**, and **MM-HAZ-6** will be implemented.

MM-HAZ-3: Road Closure Restrictions (see Section 0, Hazards and Hazardous Materials, for description)

MM-HAZ-4: Rapid Demobilization Plan (see Section 0, Hazards and Hazardous Materials, for description)

MM-HAZ-5: Evacuation Warning Procedures (see Section 0, Hazards and Hazardous Materials, for description)

MM-HAZ-6: Traffic Management Plan (see Section 0, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With implementation of mitigation measures **MM-HAZ-3**, **MM-HAZ-4**, **MM-HAZ-5**, and **MM-HAZ-6**, impacts on an emergency response or emergency evacuation plan would be reduced to a less than significant level.

Operation and Maintenance

Once operational, the Proposed Project would support objectives for multi-family housing units being located near emergency evacuation routes. This is because multi-family housing units typically generate a high amount of wastewater relative to their parcel size; this typically means that on-site septic systems are not feasible for this type of development, and they would need to connect to the Core Collection System. The main part of the Core Collection System would be installed along roads that also serve as the primary evacuation corridors for the Town. The end result is denser, multi-family housing being located on primary evacuation corridors, rather than on the canyon edges in Paradise, which in turn will facilitate safer, more rapid evacuation in case of a future fire.

Operation and maintenance activities, as described in Section 2.8, would not involve the presence or operation of equipment on roads for extended periods of time. Operation and maintenance activities would require few vehicles that would not alter the traffic volumes on roads in the study area. As a result, emergency access would remain similar to existing conditions during operations and maintenance. Therefore, operation and maintenance activities would have no impact on an adopted emergency response plan or emergency evacuation route.

Mitigation: No mitigation required.

3.19.4.2 Impact FIRE-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire (Less than Significant Impact with Mitigation Incorporated)

Construction

The Core Collection System and Extended Collection System are located in a LRA Very High FHSZ (CALFIRE 2008). Farther south of the Town, the Export Pipeline traverses Very High, Moderate, and High FHSZs in the SRA. The Chico WPCP is located in a LRA Non-Very High FHSZ.

The Town is located at an elevation of 1,000 to 2,300 feet on a broad and gently sloping ridge. Vegetation types found in the Town present fire risk and may lead to fuel driven fires. Together, these factors, along with Town's history of wildfire, create a potential for high fire risks. The City is predominantly flat. However, the weather in Chico (temperatures ranging from high to very high in the summer, low humidity, and winds), fuel types and recent structural developments supportive of fire hazards, and the urban/wildland interface can also create wildfire risk in the study area.

Operation and fueling of construction equipment in Very High FHSZs could create fire hazards in the study area. As described in Section 0, Hazards and Hazardous Materials, hazardous materials will be used, transported, and disposed of during construction of the Proposed Project. The Town will comply with all relevant federal, state, and local statutes and regulations related to the transport, use, storage, or disposal of hazardous materials associated with construction activities, and all materials designated for disposal will be evaluated for appropriate state and federal hazardous waste criteria and properly disposed of according to their classifications.

Because the Proposed Project is located in a Very High FHSZ, the potential for wildfire exists during construction. Therefore, this impact is considered significant.

Mitigation. To minimize potentially significant impacts from exacerbating wildfire risk in the study area during construction of the Proposed Project to a less than significant level, mitigation measures **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9** will be implemented.

MM-HAZ-1: Vehicle Equipment Access and Fueling (see Section 0, Hazards and Hazardous Materials, for description)

MM-HAZ-7: Incorporate Fire Prevention Measures (see Section 0, Hazards and Hazardous Materials, for description)

MM-HAZ-8: Incorporate Public Safety Measures (see Section 0, Hazards and Hazardous Materials, for description)

MM-HAZ-9. Wildland Fire Area (see Section 0, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With implementation of mitigation measures **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9**, impacts from exacerbating wildfire risk in the study area would be less than significant.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would not require the use of heavy equipment, fueling, or other activities likely to create an additional fire hazard. Additionally, operation and maintenance activities would not be located adjacent to wildland areas. Furthermore, fire suppression equipment would be made available during operation and maintenance activities and Chico WPCP would continue to comply with existing fire codes. Therefore, operation and maintenance of the Proposed Project would not exacerbate wildfire risk in the study area, resulting in a less than significant impact.

Mitigation: No mitigation required.

3.19.4.3 Impact FIRE-3: 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 (Less than Significant Impact with Mitigation Incorporated)

Construction

The Proposed Project would involve the construction of the Core Collection System, Export Pipeline System, and Extended Collection System. As discussed under Impact FIRE-2, portions of the study area are located within Very High FHSZs. Construction activities such as operation and fueling of construction equipment in Very High FHSZs could create fire hazards in the study area. Therefore,

impacts on wildfire from the installation or maintenance of utility infrastructure during construction are considered significant.

Mitigation. To minimize potentially significant impacts on wildfire from installation or maintenance of utility infrastructure during construction of the Proposed Project to a less than significant level, mitigation measures **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9** will be implemented.

MM-HAZ-1: Vehicle Equipment Access and Fueling (see Section 0, Hazards and Hazardous Materials, for description)

MM-HAZ-7: Incorporate Fire Prevention Measures (see Section 0, Hazards and Hazardous Materials, for description)

MM-HAZ-8: Incorporate Public Safety Measures (see Section 0, Hazards and Hazardous Materials, for description)

MM-HAZ-9. Wildland Fire Area (see Section 0, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With implementation of mitigation measures **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9**, impacts on wildfire from the installation or maintenance of utility infrastructure would be less than significant.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would not require the use of heavy equipment, fueling, or other activities likely to create an additional fire hazard. Additionally, operation and maintenance activities would not exacerbate wildfire risk in the study area because these activities would not occur adjacent to wildland areas. Furthermore, fire suppression equipment would be made available during operation and maintenance activities and Chico WPCP would continue to comply with existing fire codes. Therefore, operation and maintenance of the Proposed Project would result in a less than significant impact on wildfire from installation or maintenance of utility infrastructure.

Mitigation. No mitigation required.

3.19.4.4 Impact FIRE-4: 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 (Less than Significant Impact with Mitigation Incorporated)

Construction

The Town is located on a broad and gently sloping ridge, while the City is predominantly flat. Installation of the Core and Extended Collection Systems and Export Pipeline System would require

installation via trenching or open cut methods within the Town's roadway ROWs. Sections of the proposed Core Collection System and Export Pipeline System would cross private parcels and would require easements from the property owners. Once installed, disturbed areas would be backfilled and the ground surface would be restored to original conditions or better. Additionally, the Core Collection System, Extended Collection System and Export Pipeline System would be constructed in segments and any drainage impacts would be localized and temporary. However, given the sloped topography of the Town and ground disturbing activities that could create runoff or temporarily alter drainage patterns, impacts would be significant during construction.

Mitigation. To minimize significant impacts on post-fire slope instability, or drainage changes during construction of the Proposed Project to a less than significant level, mitigation measures **MM-HYD-1**, **MM-HYD-3**, and **MM-GEO-1** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 0, Hydrology and Water Quality, for description)

MM-HYD-3: Flood Protection Plan (see Section 0, Hydrology and Water Quality, for description)

MM-GEO-1: Minimize Geologic Hazards (see Section 0, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With implementation of mitigation measures **MM-HYD-1**, **MM-HYD-3**, and **MM-GEO-1**, impacts from exposing 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 would be less than significant.

Operation and Maintenance

As discussed in Section 2.8 Proposed Operations and Maintenance, while the Core Collection System, Export Pipeline System, and Extended Collection System pipelines are designed to maintain their integrity during operations, it is always possible that a segment of pipeline could break, for example during excavations near a pipeline by others. Procedures to address a pipeline break are discussed in Section 2.8. During any excavations or other work on the pipeline by Town Public Works, the same procedures and standards would apply. Operation and maintenance activities will be performed periodically according to the schedule discussed in Section 2.8.

Operation and maintenance activities, as described in Section 2.8, would not involve activities that create runoff or alter drainage. Additionally, operation and maintenance activities would not exacerbate wildfire risk in the study area because these activities would not occur adjacent to wildland areas. Therefore, operation and maintenance of the Proposed Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, resulting in a less than significant impact.

Mitigation. No mitigation required.

3.19.5 Impacts Summary

Table 3.19-1 summarizes the wildfire impacts of the Proposed Project.

Table 3.19-1. Wildfire Impacts Summary

Impact	Level of Significance Before Mitigation	Mitigation	Level of Significance with Mitigation Incorporated
Impact FIRE-1: Substantially impair an adopted emergency response plan or emergency evacuation plan	SI	MM-HAZ-3, MM-HAZ-4, MM-HAZ-5, and MM-HAZ-6	S/M
Impact FIRE-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire	SI	MM-HAZ-1, MM-HAZ-7, MM-HAZ-8, and MM-HAZ-9	S/M
Impact FIRE-3: 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	SI	MM-HAZ-1, MM-HAZ-7, MM-HAZ-8, and MM-HAZ-9	S/M
Impact FIRE-4: 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	SI	MMHYD-1, MM-HYD-3, and MM-GEO-1	S/M

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SI = Significant Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level

3.19.6 References

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3.20 Summary of Environmental Impacts

Table 3.20-1 summarizes the environmental impacts of the Proposed Project.

Appendix H, Mitigation, Monitoring and Reporting Program, summarizes the Town's program to ensure compliance with all mitigation measures committed to in this PEIR and included below, and assigns responsibility and timeframe for implementation. As noted in Appendix H, and in accordance with Section 21083, Public Resources Code (CEQA Guidelines Section 15097 (a)), a public agency shall adopt a program for monitoring and reporting on the measures that it has imposed in an EIR or negative declaration to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or private entity which accepts the delegation; however, until mitigation measures have been completed, the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program (CEQA Guidelines Section 15097 (a)). This Mitigation Monitoring and Reporting Program (MMRP) addresses the requirement.

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Table 3.20-1. Proposed Project Impact Summary Table

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Agriculture and Forestry Resources			
Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use	No Impact	Not Applicable	No Impact
Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract	No Impact	Not Applicable	No Impact
Impact AG-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by California Government Code Section 51104(g))	No Impact	Not Applicable	No Impact
Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use	No Impact	Not Applicable	No Impact
Impact AG-5: 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	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Air Quality			
Impact AIR-1: Conflict with or obstruct implementation of an applicable air quality plan	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact AIR-4: Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Biological Resources			
Impact BIO-1: 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 CDFW or USFWS: Special-Status Plant Species	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-2: Special-status Plant Surveys MM-BIO-3: Special-status Plant Avoidance MM-BIO-4: Biological Monitoring and Worker Environmental Awareness Training MM-BIO-5: Restoration of Temporarily Disturbed Areas	Less-Than-Significant Impact
Impact BIO-1: 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 CDFW or USFWS: Vernal Pool Crustaceans	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-6: No Net Loss of Aquatic Resources MM-BIO-7: Sensitive Community Fencing MM-BIO-8: Dry Work Areas	Less-Than-Significant Impact
Impact BIO-1: 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 CDFW or USFWS: Valley Elderberry Longhorn Beetle	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-9: Mapping of Elderberry Shrubs and Section 7 Consultation MM BIO-10: No Net Loss of Elderberry Shrubs MM-BIO-11: Elderberry Transplanting MM BIO-12: Avoidance Area MM-BIO-13: Chemical Use MM-BIO-14: Mowing	Less-Than-Significant Impact
Impact BIO-1: 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 CDFW or USFWS: Special-Status Fishes	Significant Impact	MM-BIO-15: Frac-Out Plan	Less-than-Significant Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact BIO-1: 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 CDFW or USFWS: Special-status Amphibians and Reptiles	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-6: No Net Loss of Aquatic Resources MM-BIO-7: Sensitive Community Fencing MM-BIO-8: Dry Work Areas MM-BIO-16: Western Pond Turtle Visual Encounter Surveys MM-BIO-17: Foothill Yellow-legged Frog Surveys MM-BIO-18: California Red-legged Frog Surveys. MM-BIO-19: Conduct Construction Activities during the Active Period for Giant Garter Snakes. MM-BIO-20: Minimize Potential Effects on Giant Garter Snake Habitat.	Less-Than-Significant Impact
Impact BIO-1: 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 CDFW or USFWS: MBTA and FGC-Protected Birds and Raptors	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-21: MBTA and FGC-Protected Bird and Raptor Surveys MM-BIO-22: Protocol Swainson's Hawk Surveys MM-BIO-23: Nest Avoidance	Less-Than-Significant Impact
Impact BIO-1: 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 CDFW or USFWS: Special-Status Bats	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-24: Bat Surveys	Less-Than-Significant Impact
Impact BIO-1: 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 CDFW or USFWS: American Badger	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-25: American Badger Detection Surveys	Less-Than-Significant Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-5: Restoration of Temporarily Disturbed Areas MM-BIO-6: No Net Loss of Aquatic Resources MM-BIO-7: Sensitive Community Fencing MM-BIO-8: Dry Work Areas	Less-Than-Significant Impact
Impact BIO-3: Have a substantial adverse effect on state or federally protected wetlands	Significant Impact	MM-BIO-1: Minimize Disturbance Footprint MM-BIO-5: Restoration of Temporarily Disturbed Areas MM-BIO-6: No Net Loss of Aquatic Resources MM-BIO-7: Sensitive Community Fencing MM-BIO-8: Dry Work Areas MM-BIO-26: State or Federally Protected Wetlands Mitigation	Less-Than-Significant Impact
Impact BIO-4: 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	No Impact	Not Applicable	No Impact
Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	No Impact	Not Applicable	No Impact
Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	No Impact	Not Applicable	No Impact
Cultural Resources			
Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5	Significant Impact	MM-CUL-1: Targeted archaeological monitoring MM-CUL-2: Follow inadvertent discovery procedures	Less-Than-Significant Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Energy			
Impact ENG-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction, operation, or maintenance	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact ENG-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency	No Impact	Not Applicable	No Impact
Geology, Soils, and Paleontological Resources			
Impact GEO-1(a): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault	No Impact	Not Applicable	No Impact
Impact GEO-1(b): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Strong seismic ground shaking	Significant Impact	MM-GEO-1: Minimize Geologic Hazards	Less-than-Significant Impact
Impact GEO-1(c): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Seismic-related ground failure, including liquefaction	Significant Impact	MM-GEO-1: Minimize Geologic Hazards	Less-than-Significant Impact
Impact GEO-1(d): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Landslides	Significant Impact	MM-GEO-1: Minimize Geologic Hazards	Less-than-Significant Impact
Impact GEO-2: Result in substantial soil erosion or the loss of topsoil	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact GEO-3: 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	Significant Impact	MM-GEO-1: Minimize Geologic Hazards	Less-than-Significant Impact
Impact GEO-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property	Significant Impact	MM-GEO-1: Minimize Geologic Hazards	Less-than-Significant Impact
Impact GEO-5: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater	No Impact	Not Applicable	No Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	Significant Impact	MM-GEO-2: Inadvertent Discovery Protocol	Less-Than-Significant Impact
Greenhouse Gas Emissions			
Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reduction the emissions of GHG	No Impact	Not Applicable	No Impact
Hazards and Hazardous Materials			
Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials	Significant Impact	MM-HAZ-1: Vehicle Equipment Access and Fueling	Less-than-Significant Impact
Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact HAZ-4: 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	Significant Impact	MM-HAZ-2: Cypress Lane Site Specific Contaminated Soil Management Plan	Less-than-Significant Impact
Impact HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area	No Impact	Not Applicable	No Impact
Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	Significant Impact	MM-HAZ-3: Road Closure Restrictions MM-HAZ-4: Rapid Demobilization Plan MM-HAZ-5 : Evacuation Warning Procedures MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	Significant Impact	MM-HAZ-1: Vehicle Equipment Access and Fueling MM-HAZ-7: Incorporate Fire Prevention Measures MM-HAZ-8: Incorporate Public Safety Measures MM-HAZ-9: Wildland Fire Area	Less-than-Significant Impact
Hydrology and Water Quality			
Impact HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	Significant Impact	MM-HAZ-1: Vehicle and Equipment Access and Fueling MM-HYD-1: Stormwater Management and Treatment Plan MM-HYD-2: Construction Best Management Practices MM-BIO-15: Frac-out Plan	Less-than-Significant Impact
Impact HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact HYD-3(a): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Result in substantial erosion or siltation on or off-site	Significant Impact	MM-HYD-1: Stormwater Management and Treatment Plan	Less-than-Significant
Impact HYD-3(b): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site	Significant Impact	MM-HYD-1: Stormwater Management and Treatment Plan MM-HYD-3: Flood Protection Plan	Less-than-Significant Impact
Impact HYD-3(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: Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff	Significant Impact	MM-HYD-1: Stormwater Management and Treatment Plan MM-HYD-3: Flood Protection Plan	Less-than-Significant Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact HYD-3(d): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Impede or redirect flood flows	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact HYD-4: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation	Significant Impact	MM-HYD-3: Flood Protection Plan	Less-than-Significant Impact
Impact HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	Significant Impact	MM-HYD-1: Stormwater Management and Treatment Plan	Less-than-Significant Impact
Land Use and Planning			
Impact LU-1: Physically divide an established community	No Impact	Not Applicable	No Impact
Impact LU-2: Cause any 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	No Impact	Not Applicable	No Impact
Noise and Groundborne Vibration			
Impact NSE-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies	Significant Impact	MM-NSE-1: Minimize Construction Noise	Less-Than-Significant Impact
Impact NSE-2: Generate excessive groundborne vibration or groundborne noise levels	Significant Impact	MM-NSE-1: Minimize Construction Noise	Less-Than-Significant Impact
Impact NSE-3: Be located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Population and Housing			
Impact POP-1: Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere	No Impact	Not Applicable	No Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Public Services			
Impact PS-1(a): Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: Fire Protection	Significant Impact	MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact
Impact PS-1(b): 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 following public services: Police Protection	Significant Impact	MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact
Impact PS-1(c): 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 following public services: Schools	Significant Impact	MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact
Impact PS-1(d): 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 following public services: Other Public Facilities	Significant Impact	MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact
Recreation			
Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Transportation			
Impact TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities	Significant Impact	MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact TRA-2: Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)	Less-than-Significant Impact	Not Applicable	Less-than-Significant Impact
Impact TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)	No Impact	Not Applicable	No Impact
Impact TRA-4: Result in inadequate emergency access	Significant Impact	MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact
Tribal Cultural Resources			
Impact TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: • Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or • A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency will consider the significance of the resource to a California Native American tribe.	Significant Impact	MM-TCR-1: Coordination with Konkow Valley Band of Maidu and Mechoopda Indian Tribe MM-TCR-2: Tribal Cultural Monitoring	Less-than-Significant Impact
Utilities and Service systems			
Impact UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects	Significant Impact	MM-UTIL-1: Minimize Utility and Service System Disruptions	Less-Than-Significant Impact
Impact UTIL-2: Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years	No Impact	Not Applicable	No Impact
Impact UTIL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the Project, that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments	No Impact	Not Applicable	No Impact

Impact	Level of Significance Before Mitigation	Mitigation Measure	Level of Significance After Mitigation
Impact UTIL-4: 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	No Impact	Not Applicable	No Impact
Impact UTIL-5: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste	No Impact	Not Applicable	No Impact
Wildfire			
Impact FIRE-1: Substantially impair an adopted emergency response plan or emergency evacuation plan	Significant Impact	MM-HAZ-3: Road Closure Restrictions MM-HAZ-4: Rapid Demobilization Plan MM-HAZ-5: Evacuation Warning Procedures MM-HAZ-6: Traffic Management Plan	Less-than-Significant Impact
Impact FIRE-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire	Significant Impact	MM-HAZ-1: Vehicle and Equipment Access and Fueling MM-HAZ-7: Incorporate Fire Prevention Measures MM-HAZ-8: Incorporate Public Safety Measures MM-HAZ-9: Wildland Fire Area	Less-than-Significant Impact
Impact FIRE-3: 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	Significant Impact	MM-HAZ-1: Vehicle and Equipment Access and Fueling MM-HAZ-7: Incorporate Fire Prevention Measures MM-HAZ-8: Incorporate Public Safety Measures MM-HAZ-9: Wildland Fire Area	Less-than-Significant Impact
Impact FIRE-4: 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	Significant Impact	MM-HYD-1: Stormwater Management Plan MM-HYD-3: Flood Protection Plan MM-GEO-1: Minimize Geologic Hazards	Less-than-Significant Impact

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4. Other CEQA Considerations

4.1 Introduction

In addition to identifying the potential for physical effects of the Proposed Project and measures to mitigate any identified significant effects (Chapter 3, Environmental Impact Analysis), the CEQA Guidelines also require evaluation of the following topics:

- Significant irreversible environmental changes
- (CEQA Guidelines Section 15126.2 [d])
- Significant and unavoidable impacts (CEQA Guidelines Section 15126.2[c])
- Growth-inducing impacts (CEQA Guidelines Section 15126[e])
- Cumulative impacts (CEQA Guidelines Section 15130)

4.2 Irreversible Impacts

CEQA Guidelines Section 15126.2(d) requires that an EIR must identify irreversible impacts (also referred to as irreversible environmental changes) that may be caused by a project if it is implemented. Irretrievable commitments of resources should be evaluated to justify current consumption. For the purpose of this analysis, the irreversible impacts described below could occur as a result of the Proposed Project.

Other than at the transition between Skyway and Southgate Avenue before crossing SR 99 (Chapter 2 Project Description), the Proposed Project would include activities primarily within the existing ROW and at the Chico WPCP. Constructing the Core Collection System, the Export Pipeline System, and the Extended Collection System, would involve using vehicles and heavy equipment that would use nonrenewable fossil fuels to transport construction materials, equipment, and construction workers to and from the work sites. Materials to be used for constructing the Core Collection System, the Export Pipeline System, and the Extended Collection System would include PVC pipe, metals, concrete, asphalt, backfill material and associated materials for installation such as slurry, pipe fittings, wire, and conduit.

Overall, construction activity included as part of the Proposed Project would not consume a substantial quantity of resources that would deplete current resources and prohibit their future use, such as fossil fuel energy, because work sites would be limited in size and duration (HDR 2022). During construction, the Town's compliance with applicable BCAQMD regulations would reduce potential air quality effects. As discussed in Section 3.3 Air Quality, the Proposed Project will also implement best practices as required by BCAQMD Rules 200 and 205 to reduce fugitive dust emissions. Finally, the Proposed Project will implement BCAQMD's best practice measures to minimize diesel particulate matter from construction equipment. As a result, impacts on air quality were found not to be significant.

Energy usage during construction and operation and maintenance would not result in irreversible environmental changes. As discussed in Section 3.6 Energy, a multitude of state regulations are aimed at improving vehicle fuel efficiency, including Pavley Standards (AB 1493), the Advanced Clean Cars

Program, and the In-Use Off-Road Diesel-Fueled Fleets Regulation. Required conformance of vehicles and equipment to the regulations would minimize wasteful, inefficient, or unnecessary consumption of transportation fuel during construction.

The Proposed Project would consist of a system of gravity sewers, pump stations, force mains and associated structures and conduits. Gravity sewers do not use energy; the wastewater flows by gravity through the pipes based on the movement of the effluent from higher to lower elevations. The pump stations associated with the Core Collection System would consume approximately 601,000 kWh/year of electrical energy. Refer to Appendix I, Pump Station Energy Consumption Calculation, for the detailed energy demand calculations. This increase in electricity consumption represents a small fraction of the total energy demand in Butte County. As it relates to energy efficiency and sustainability, the Chico WPCP operates a 1.1-megawatt, solar photovoltaic facility providing electric power to the WPCP, which reduces the plant's use of utility power by approximately 35 percent. Further, a 335-kilowatt co-generator is on site that uses methane produced by the plant processes as a fuel source to produce electricity, which is used at the WPCP (City of Chico 2021a). Therefore, energy efficiency and sustainability measures have already been built into the design of the Chico WPCP. While the Proposed Project would increase the amount of energy needed to treat wastewater at the existing Chico WPCP, it would be well within current capacity at the time of connection and would not result in an inefficient use of energy. As a result, impacts on energy were found to be not significant.

A review of the USGS Mineral Resources Online Spatial Data indicates that past or present mineral resources occur within the Core and Extended Collection Systems areas (USGS 2021). Past or present mineral resources may occur along the Skyway segment of the Export Pipeline System in unincorporated Butte County (USGS 2021). However, the Skyway segment of the Export Pipeline System would be constructed underground within the Butte County ROW. None of the parcels immediately adjacent to the Export Pipeline System are designated for mineral resource conservation or mining and mining is not allowed in any of those zones. As a result, the potential for mineral resources to be disturbed is low.

The proposed sewer collection system would replace private septic systems within the Town. Currently, the lack of municipal sewer infrastructure poses an environmental threat to groundwater and surface water quality, both precious regional resources. As discussed in Section 3.10, Hydrology and Water Quality, implementing a municipal wastewater collection system and reducing the reliance on private septic tanks and leach fields as a result of the Proposed Project could improve groundwater and surface water quality in the study area by removing the potential for contact with sewage, and removing the discharge of sewage into the ground within the sewer service area. Additionally, as discussed in Section 3.18, Utilities and Service Systems, the Proposed Project would connect to an existing and established treatment system at the Chico WPCP that has adequate capacity to serve the Proposed Project's projected wastewater demand.

In summary, vehicle and equipment operation associated with the Proposed Project activities would require using nonrenewable fossil fuels. As discussed in Section 2.5.1.3 Equipment, Crews, and Materials (Core Collection System) and Section 2.5.2.3 Equipment, Crews, and Materials (Export Pipeline System), construction would require use of materials such as PVC pipe, metals, concrete, asphalt, and backfill material, which are also nonrenewable resources. These materials and the

necessary volume that would be used for the Proposed Project would be in line with standard pipeline construction and would not noticeably reduce the availability of these resources for other project uses.

Under CEQA Guidelines Section 15127, an analysis of irreversible changes is required for adoption by a LAFCo of a resolution making determinations. However, the information required by Section 15126.2(c) concerning irreversible changes, need be included only in EIRs prepared in connection with any of the following activities:

a. The adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency;
b. The adoption by a local agency formation commission of a resolution making determinations; or
c. A project which will be subject to the requirement for preparing an environmental impact statement pursuant to the requirements of the National Environmental Policy Act of 1969, 42 USC 4321 – 4347.

4.3 Significant and Unavoidable Impacts

CEQA Guidelines Section 15126.2(c) requires an EIR to discuss significant effects, including those that can be mitigated but not reduced to a level of insignificance. The CEQA Guidelines state that:

> *(w)here there are impacts that cannot be alleviated without imposing an alternative design, their implications, and reasons why the project is being proposed, notwithstanding their effect, should be described.*

Table 4.3-1 summarizes those resource topic areas found to have the potential for significant impacts resulting from the Proposed Project, as analyzed in Chapter 3. Significant impacts would occur for the following resource topic areas: biological resources; cultural resources; geology, soils and paleontological resources; hazards and hazardous materials; hydrology and water quality; noise and groundborne vibration; public services; transportation; tribal cultural resources; utilities and service systems; and wildfire. However, as discussed in detail in the Chapter 3 resource sections and summarized below, all impacts could be mitigated to a less than significant level, and no significant and unavoidable impacts are anticipated.

Table 4.3-1. Significant Impacts Mitigated from the Proposed Project

Resource Topic Area	Significant Impacts from the Proposed Project	Effectively Mitigated to Less than Significant	Significant and Unavoidable Impacts
Biological Resources			
BIO-1: 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 CDFW or USFWS	✓	✓	—
BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS	✓	✓	—

Resource Topic Area	Significant Impacts from the Proposed Project	Effectively Mitigated to Less than Significant	Significant and Unavoidable Impacts
BIO-3: Have a substantial adverse effect on state or federally protected wetlands	✓	✓	___
Cultural Resources			
CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5	✓	✓	___
Geology, Soils, and Paleontological Resources			
GEO-1(b): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Strong seismic ground shaking	✓	✓	___
GEO-1(c): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Seismic-related ground failure, including liquefaction	✓	✓	___
GEO-1(d): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Landslides	✓	✓	___
GEO-3: 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	✓	✓	___
GEO-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property	✓	✓	___
GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	✓	✓	___
Hazards and Hazardous Materials			
HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials	✓	✓	___
HAZ-4: 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	✓	✓	___
HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	✓	✓	___
HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	✓	✓	___

Resource Topic Area	Significant Impacts from the Proposed Project	Effectively Mitigated to Less than Significant	Significant and Unavoidable Impacts
Hydrology and Water Quality			
HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	✓	✓	—
HYD-3(a): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Result in substantial erosion or siltation on or off-site	✓	✓	—
HYD-3(b): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site	✓	✓	—
HYD-3(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: Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff	✓	✓	—
HYD-4: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation	✓	✓	—
Noise and Groundborne Vibration			
NSE-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies	✓	✓	—
NSE-2: Generate excessive groundborne vibration or groundborne noise levels	✓	✓	—
Public Services			
PS-1(a): Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: Fire Protection	✓	✓	—

Resource Topic Area	Significant Impacts from the Proposed Project	Effectively Mitigated to Less than Significant	Significant and Unavoidable Impacts
PS-1(b): 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 following public services: Police Protection	✓	✓	___
PS-1(c): 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 following public services: Schools	✓	✓	___
PS-1(d): 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 following public services: Other Public Facilities	✓	✓	___
Transportation			
TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities	✓	✓	___
TRA-4: Result in inadequate emergency access	✓	✓	___
Tribal Cultural Resources			
TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: • Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or • A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC	✓	✓	___

Resource Topic Area	Significant Impacts from the Proposed Project	Effectively Mitigated to Less than Significant	Significant and Unavoidable Impacts
Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe			
Utilities and Service Systems			
UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects	✓	✓	—
Wildfire			
FIRE-1: Substantially impair an adopted emergency response plan or emergency evacuation plan	✓	✓	—
FIRE-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire	✓	✓	—
FIRE-3: 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	✓	✓	—
FIRE-4: 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	✓	✓	—

4.4 Growth Inducing Impacts

CEQA Guidelines Section 15126(e) requires an EIR to include an analysis of the growth-inducing impacts of the project. CEQA Guidelines Section 15126.2(d) states that the analysis of growth-inducing impacts should discuss the ways in which the program or project could foster economic or population growth (such as by removing obstacles to growth) or the construction of additional housing, either directly or indirectly, in the surrounding environment.

The primary need for the Proposed Project is public health and safety. However, the secondary need is to accommodate the return of residents and commercial businesses to Paradise. A detailed discussion of the Need and Objectives of the Proposed Project is in Section 2.3 of this PEIR.

In general, a project can be considered growth inducing if it meets one or more of the following criteria:

- Fosters population growth directly or indirectly
- Fosters economic expansion directly or indirectly

- Establishes precedent-setting actions (such as innovation or expansion beyond the existing limits of the study area)
- Results in the development or encroachment in an isolated or adjacent area of open space
- Removes an obstacle to growth (such as a major expansion of a wastewater treatment plant).

Examples of projects that are growth inducing might be the expansion of urban services into a previously unserved or underserved area, the creation or extension of transportation links, or the removal of major obstacles to growth. It is important to note that these direct forms of growth have secondary effects of expanding the size of local markets and attracting additional economic activity to the area. Typically, the growth-inducing potential of a project would be considered significant if it stimulates population growth or a population concentration above what is assumed in local and regional land use plans, or in projections made by regional planning authorities such as the BCAG. Significant growth impacts could also occur if the project provides infrastructure or service capacity to accommodate growth levels beyond those anticipated by local or regional plans and policies. It should not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment (CEQA Guidelines Section 15126.2(e).

The Proposed Project is a part of the Town's recovery efforts from the 2018 Camp Fire and would address the need for a municipal wastewater collection, treatment and disposal solution, to improve and replace the private, failing or damaged septic systems (Section 2.3 Project Need and Objectives). As a result, the Proposed Project is intended to foster population regrowth, support construction of multi-family and affordable housing, and generate economic recovery within the Town (Section 2.3 Project Need and Objectives). As discussed in Section 3.13, Population and Housing, a substantial decrease of approximately 83 percent of the population in Paradise occurred as a result of the 2018 Camp Fire. Any inducement of the population growth that might occur as a result of the Proposed Project in the shorter term would be a return and/or *regrowth* and *repopulation* toward pre-fire levels. Any growth beyond pre-fire levels that could occur in the longer term would be consistent with the *Town of Paradise 2022-2030 Housing Element Update* (Town of Paradise 2022a). This growth would be limited by (1) the current boundaries of the Town, (2) the capacity of the Proposed Project infrastructure, and (3) the Chico WPCP operational (disposal permit allowance) and existing plant infrastructure (facilities limitations) capacity. In either case, implementation of the Proposed Project would not, in and of itself, cause the growth, but it would accommodate growth, eliminating an obstacle to planned growth within the Town. The Proposed Project would not provide new service to the City or the County outside of the Town boundaries, so would not induce growth to the City or other communities within the County outside of the Town. Some previous residents of the Town may choose to return when services and housing become available, which could slightly reduce the City population; however, estimating exact numbers would be speculative.

The *Town of Paradise 2022-2030 Housing Element Update* (Town of Paradise 2022a) states: "the proposed sewer collection system and treatment will facilitate regrowth, replace failed septic systems, provide for affordable housing, and improve the local economy". In addition, the plan outlines a proposed SSA that will "serve approximately 1,400 parcels through the Skyway, Clark Road, and Pearson Road corridors, which represents most businesses in Paradise and provide for future development of more multi-family residences, which is currently limited because of septic system constraints (Town of Paradise 2022a). This proposed SSA is consistent in geography with the Core

Collection Area included in the Proposed Project. In addition, as discussed in Section 3.11.1.1 Town of Paradise General Plan (Land Use), the Proposed Project is also consistent with the broader goals and policies being included in the *Town of Paradise General Plan* updates.

The Housing Element includes implementation measures to guide Town staff, decision makers, and housing stakeholders by "translat(ing) goals and policies into actions". The following measures demonstrate alignment of the Proposed Project with the *Town of Paradise 2022-2030 Housing Element Update* (Town of Paradise 2022a), and in some cases, how the Proposed Project is key to the Town meeting identified goals and policies:

- **HI-1:** *Reduce Infrastructure Constraints to Development* – Continue to reduce infrastructure constraints to new development, particularly those constraints associated with wastewater disposal. The General Plan authorizes an ongoing identification of infrastructure and service limitations including those related to sanitary waste disposal which inhibit housing development.
- **HI-5:** *Density Bonus and Other Opportunities for Increased Density* – Revise the density bonus ordinance (Chapter 17.44) to be consistent with State law, including AB 2345 and Government Code Sections 65915 and 65917 and identify incentives for affordable housing development. Perform the rezonings described in Chapter 4 (of the *2022-2030 Housing Element of the Town of Paradise General Plan*), for key parcels in the (sewer service area) and establish a Sewer Service Overlay Zone to allow increased densities up to 30 dwelling units/acre in the (sewer service area) to accommodate affordable housing.
- **HI-8:** *Small Lot Consolidation and Development* – Continue to encourage consolidation of small multi-family parcels as well as small, commercially designated parcels appropriate for residential use. This program can facilitate the development of affordable housing by creating lots large enough to accommodate denser multi-family residential projects. The planned sewer system is anticipated to also be an impetus for lot consolidation.

Often, when specific data relating to growth that might be induced are available, it is possible, based on historic averages or other data, to develop a reasonable forecast of the amount of new development that could be accommodated by the expanded capacity. For example, when the capacity of utility systems or other infrastructure is expanded into a new area or infrastructure is sized to serve a larger population. The return of the Town's population (that is, *regrowth*) to Paradise is driven by a disaster and, if it occurs, will occur only over an extended period of time. In their *Provisional Long-Term Regional Growth Forecasts 2018-2040* (BCAG 2019b), BCAG forecasted a Low, Medium, and High Scenario for total housing growth for Paradise that reflects -31 percent, -13 percent, or 6 percent growth, respectively, between pre-fire conditions in 2018 and 2040. In other words, in the low and medium forecasts, it is not anticipated that the Town will even recover to pre-fire conditions until after 2040. The assumptions for these forecasts did not include construction of the sewer system; estimating if and how much these forecasts could change with implementation of the Proposed Project would be speculative, at best. Further, in the *Post Camp Fire Regional Population and Transportation Study* (Fehr and Peers 2021) prepared for BCAG in 2021, key findings in the housing and employment forecast included that there would be a reduction in total county housing count for each forecast year as compared to findings in a previous study in 2020, partially because the DOF lowered their population projections for all of Butte County (Fehr & Peers 2021). Further, specific to the Town, the report states "In addition to the countywide reduction, Paradise is expected to have slower growth (as compared to

their 2020 study) in both near and long-term forecasts, with Chico's growth making up the difference" (Fehr and Peers 2021).

In *The Demography of Disasters* (Karacsonyi et al. 2021), a study and comparison of recent large-scale worldwide disasters, the authors find:

> …there is inevitably short- to medium-term population loss as many people temporarily move away from danger and the loss of services, infrastructure and economic support. The return of this population has to be phased over a long period as the city is rebuilt, but a portion of this population may never return, or a different demographic or social group replaces some of those who have left. The challenge of recovery and adaptation is correctly identifying and anticipating this demographic change in order to adopt approaches that suit the altered settlement. Within this change are activities and strategies to build back better, and to enhance both resilience and sustainability" (King and Gurtner 2021).

The authors conclude that "rather than traditional planning premised on anticipated future growth and development, post-disaster recovery should be prepared to plan-to-scale or right sizing for greater resilience and sustainability (King and Gurtner 2021)." Implementation of the Proposed Project allows for this scalable regrowth over time, but forecasting the specific timing or level of population recovery over a 30-year horizon would be speculative and would not "constitute substantial evidence" at this time (CEQA Guidelines Section 15064 [f][5]).

For the most part, the Core Collection system would not induce growth because it replaces failed or failing septic systems in what was already a concentrated area for businesses and housing (Section 2.5.1 Core Collection System). According to the *Town of Paradise 2022-2030 Housing Element Update* (Town of Paradise 2022a), key parcels in the sewer service area will require rezoning, and a Sewer Service Overlay Zone was established to allow increased densities up to 30 dwelling units per acre in the sewer service area (Town of Paradise 2022a). The main purpose of that rezoning is to accommodate affordable multifamily development that was not possible with only septic. The Proposed Project is consistent with the goals and policies in the Housing Element as it would serve most businesses in the Town and provide for future development of more multi-family residences, which is currently limited because of septic system constraints. As discussed in Section 2.5.1 Core Collection System, the estimated maximum wastewater conveyance and treatment need for the sewer service area is 464,000 gallons per day (0.464 mgd). This sewer estimate accounts for current and future estimated growth consistent with the current *Town of Paradise General Plan* and updated *Town of Paradise 2022-2030 Housing Element* and would be realized progressively over the projected 30-year planning horizon (Town of Paradise and Quad Consultants 2008, Town of Paradise 2022a). This flow limit will also be contained within the inter-municipal agreement being developed between the Town and the City.

The Expanded Collection System is for a broader geographic area and would allow development to occur in additional areas and forms within the Town boundaries, such as multifamily rather than single family housing. However, this population growth is still limited, as it would be contained within the existing Town boundaries and would be controlled by the permits issued by the Town. Parcels in the

Extended Collection System might want to connect in the future (either before or after the 30-year planning horizon), prior to (or in lieu of) complete build-out of the Core Collection System. If so, those parcels in the Extended Collection System could be allowed to connect, as long as the total flow from the Core Collection System and Extended Collection System remained at or below 0.464 mgd. Further, as stated in Chapter 2 Project Description, the proposed sewer system would not extend to other cities or counties or benefit populations outside of the Town.

Paradise lost 83 percent of its population. Thus, return of that population would not place a burden on existing community systems which remained in place after the Camp Fire. Assessments of the effects of the Proposed Project on these community resources are included in Chapter 3 (Section 3.6 Energy, 3.14 Public Services, 3.15 Recreation, and 3.18 Utilities and Service Systems) and no growth inducing effects on these Town's community services and resources over pre-fire conditions, at which level they were designed to support, were identified. A population increase above the recovery level is, at best, speculative, but as noted previously, would be expected to occur gradually over time.

As discussed in Section 3.13 Population and Housing, all construction jobs associated with the Proposed Project would be temporary and many of those jobs could be filled by the current workforce within the region. However, some workers could become permanent residents as part of the Town's short-term repopulation growth. During operation and maintenance, as discussed in Chapter 2 Project Description, about 5–10 permanent employees would be required to serve the Proposed Project. The Town may hire additional staff to handle these operation and maintenance activities. The increase in permanent jobs from operation and maintenance, however, would not be at a level that would cause substantial or unplanned growth within the area or necessitate the construction of additional housing or business services specifically for the minimal number of staff that would be employed long term for operation and maintenance at the facilities.

There would be no precedent-setting action that might trigger expansion of the Town as the proposed sewer system would not change Town boundaries and does not allow for service beyond those boundaries. As such, there would be no resulting development or encroachment to isolated or adjacent areas of open space. Further, the Proposed Project would not trigger unplanned expansion of the existing Chico WPCP. The proposed sewer service is within the current capacity, facility function, and purpose of the Chico WPCP. Section 2.4.2 Chico Water Pollution Control Plant provides a brief description of the existing Chico WPCP facilities and the City's planned expansion of the facility, which will be evaluated in a separate CEQA process and is not a part of this PEIR. Costs associated with meeting future regulatory requirements and system upgrades can be spread over a larger population and will ultimately reduce the per capita costs of wastewater treatment and disposal. Regionalization also increases the technical and economic feasibility of a higher level of wastewater treatment, allowing the treated water to be a resource for the communities instead of merely being a waste. In support of this goal, the City of Chico Municipal Code (CMC) Section 15.40.285 sets forth procedures and guidance for regional connections to the Chico WPCP.

Finally, the CEQA Guidelines state that growth inducement could occur if an obstacle to growth in the surrounding environment is removed, such as a major expansion of a wastewater treatment plant (CEQA Guidelines Section 15126.2(e)). The Proposed Project is intended to foster economic growth and population growth within the Town through an improved wastewater system. However, (1) much of

this growth would be in the context of *regrowth* and *repopulation* since the 2018 Camp Fire, (2) all growth would be consistent with the *Town of Paradise 2022-2030 Housing Element Update* (Town of Paradise 2022a), and (3) all growth would be contained within existing Town boundaries. Therefore, given the parameters imposed on the Proposed Project so as to remain consistent with the *Town of Paradise General Plan* and updated *Town of Paradise 2022-2030 Housing Element* (Town of Paradise and Quad Consultants 2008, Town of Paradise 2022a), compliant with the inter-municipal agreement being created between the City and Town, and remain within Town boundaries, as assumed in this PEIR, the Proposed Project would not be considered growth inducing.

4.5 Cumulative Impacts

CEQA require that EIRs include a discussion of cumulative impacts, specifically stating:

> *"Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.*
>
> *(a) The individual effects may be changes resulting from a single project or a number of separate projects.*
>
> *(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (CEQA Guidelines Section 15355).*

According to the CEQA Guidelines, “cumulatively considerable” means that “the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.” (CEQA Guidelines Section 15065(a)(3))

CEQA Guidelines also provide guidelines for assessing the potential for proposed projects to contribute to cumulative impacts when the project would include implementing measures (including mitigation) to reduce effects as defined in previously approved plans or regulations:

> *A lead agency may determine that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including, but not limited to, water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, plans or regulations for the reduction of greenhouse gas emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located (CEQA Guidelines Section 15064 (h)(3)).*

Further, the CEQA Guidelines state that “the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulatively considerable” (CEQA Guidelines Section 15064 (h)(4)).

4.5.1 Methods Used in the Cumulative Analysis

Two methods can be used for cumulative impact analysis (CEQA Guidelines Section 15130). In the list approach, the lead agency identifies related projects or activities that could add to the proposed project’s environmental impacts. In the projection, or plan, approach, the lead agency relies on projections in an adopted planning document or prior environmental document. This PEIR uses the list approach.

The following terminology is used in this PEIR to describe the various levels and types of environmental impacts associated with the Proposed Project:

- **Cumulative impact**: As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts.
- **Significance threshold**: Consistent with thresholds used to evaluate the impacts resulting from the Proposed Project in Chapter 3, this is the criterion used in the EIR to determine whether the magnitude of a cumulative environmental impact would be significant.
- **Significant cumulative impact**: A cumulative impact is considered significant if it would result in a substantial adverse change in the physical conditions of the environment, as determined by whether it exceeds the applicable significance threshold.
- **Cumulatively considerable:** Pursuant to CEQA Guidelines Section 15065(a)(3), “cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects. Where a lead agency is examining a project with an incremental effect that is not “cumulatively considerable,” the lead agency need not consider that effect significant (CEQA Guidelines Section 15130).

Table 4.5-1 lists and describes the reasonably foreseeable probable future projects and activities considered for the cumulative impact analysis. This list of foreseeable probable future projects and activities was developed based on a review of the Town, City, Butte County, and BCAG websites and input from with Susan Hartman, the Town Planning Director. Construction schedules are estimated for the purpose of informing a cumulative analysis and will be refined as project planning proceeds.

The cumulative condition and activities, including a resource-specific analysis of the potential cumulative effects when the Proposed Project is added to those cumulative activities. s discussed in Section 4.5.2, Cumulative Impact Analysis.

Table 4.5-1. Cumulative Activities

Project Name	Description	Activity Location	Sponsor	Timeframe
Chico WPCP Condition, Regulatory, and Capacity-Driven Upgrades	In the future, the City will implement a series of projects at the Chico WPCP to (a) accommodate expansion needs due to development within Chico and the potential addition of the Town's wastewater flow, (b) address the deteriorated condition of some existing facilities, and (c) meet more stringent regulatory requirements as defined by the renewed NPDES discharge permit. Treatment of the Town's wastewater is being included in the planning of the Chico WPCP projects. The first projects contemplated are addition of a secondary clarifier; emergency effluent bypass, storage and return improvements; and various near-term condition-driven improvements involving replacement of equipment.	Chico	City of Chico	2022 to 2057
Paradise Irrigation District Project Water Intertie	Assemblyman James Gallagher and Jim Nielsen introduced Assembly Bill 36, which would fast-track the Paradise Sewer Project and the Paradise Irrigation District Project Water Intertie. The water intertie would allow the sale of unused surface water in PID reservoirs, to help make up for losing most of its customers after the fire. It would involve transporting water to Chico. In 2020, Gallagher made this proposal linked with PID and the California Water Service Chico Division. The bill is sponsored by the Town, PID, and the State Building and Construction Trades Council of California. At this time, it is uncertain if the project is viable or moving forward by Paradise Irrigation District.	Paradise and Chico	PID	March 2020 to unknown
Tuscan Ridge Project	The project is to build an on-site sewage wastewater treatment and disposal facility to serve as a temporary workers camp for those who were involved in the recovery and rebuilding efforts of facilities and properties damaged during the Camp Fire. The project Notice of Exemption was received and posted in 2019. Its exempt status was declared emergency. At this time, the facility is being used for various equipment staging intermittently.	3100 Skyway in Paradise	Regional Board	2019 to current
City of Chico Nitrate Plan	**Nitrate Area 3N, Phase 5, Unit 3, Northwood Woodcourt**: Sanitary sewer installation. The project included the placement of approximately 5,200 linear feet of sanitary sewer main pipe, installation of sanitary sewer laterals, and trench replacement. (Work completed 12/9/2020; Notice of Completion 12/23/2021) **Nitrate Area 3S, Phase 6, Unit 6, Nord:** The project included installation of 1,650 linear feet of 10-inch sanitary sewer pipe, 1,200 linear feet of 8-inch sanitary sewer pipe, 800 linear feet of 6- inch sanitary sewer pipe, and 950 linear feet of 4-inch sanitary sewer lateral. (Project accepted 1/8/2021; Notice of Completion 1/19/2021)	Chico	City of Chico	2020 to current
Paradise Transit Center	The intent of the project is to provide a location for transit users to centrally access the B-Line in Paradise and also	Paradise	BCAG	2018 to 2023

Project Name	Description	Activity Location	Sponsor	Timeframe
	enhance the downtown multi modal atmosphere. The project has tentatively been allocated FTA funding and is anticipated to be allocated in 2022 for construction in 2023.			
Town of Paradise Recovery Projects, Road Repairs	**On-System Road Rehabilitation:** This project includes 32 miles of on-system roadway rehabilitation, consisting of asphalt concrete overlays and full depth roadway section replacement for areas with severe pavement damage. On-system roads are public roads that are a part of the federal-aid system, and do not include local roads or rural minor collectors. **Off-System Road Rehabilitation:** This project includes 47 miles of off-system roadway rehabilitation, consisting of asphalt concrete overlays and full depth roadway section replacement for areas with severe pavement damage. Off-system roads are public roads that are not part of the federal aid system, and include local roads and rural minor collectors.	Paradise	Town of Paradise	2022-2025
Town of Paradise Recovery Projects, Damage Repairs	**On-System Culvert Replacements:** This project includes replacement of damaged culverts, including restoration of the roadway section above the pipe at various locations, along on-system roads to improve safety and provide safe and effective management of storm runoff. **On-System Hardscape Replacement**: This project will remove and replace existing damaged concrete curb, gutter and sidewalk, lighting, planters, and amenities at 30 locations town-wide to improve safety and pedestrian accessibility along on-system roads. **On-System Sign Replacement**: This project will replace 123 damaged roadway signs at various locations along on-system roads. **Off-System Culvert Replacements:** This project includes replacement of damaged culverts, including restoration of the roadway section above the pipe at various locations, along off-system roads to improve safety and provide safe and effective management of storm runoff.	Paradise	Town of Paradise	2022
Town of Paradise Recovery Projects, Road Widening	**Upper Skyway Widening**: This project includes the widening of Skyway between Bille Road and Pentz Road (2.7 miles) and the addition of a 12-feet wide center turn lane, increased shoulder widths, and a multi-use pathway. This project is currently a high priority, however wholly unfunded and may not proceed. **Upper Clark Road Widening:** This project includes the widening of Clark Road between Wagstaff Road and Skway (1.5 miles) and the addition of a 12-feet wide center turn lane, increased shoulder widths, and a multi-use pathway. This project is currently a high priority, however wholly unfunded and may not proceed. **Roe Road Extension Phases 1&2:** This project includes	Paradise	Town of Paradise	2022-2027

Project Name	Description	Activity Location	Sponsor	Timeframe
	the construction of an extended Roe Road between Pentz Road and Clark Road, establishing a southerly east-west connection to South Libby Road, Sawmill Road and Edgewood Road. The roadway would include travel lanes and a multi-use pathway. This project is currently a high priority, however wholly unfunded and may not proceed. **Pentz Road Widening:** This project includes the widening of Pentz Road between Pearson Road and Skway (4.0 miles) and the addition of a 12-feet wide center turn lane, increased shoulder widths, and a multi-use pathway. This project is currently a high priority, however mostly unfunded and may not proceed. **Neal Road Widening:** This project includes the widening of Neal Road between Skyway and Town Limits at Wayland Road (2.5 miles) and the addition of a 12-feet wide center turn lane, increased shoulder widths, and a multi-use pathway. This project is currently a high priority, however wholly unfunded and may not proceed.			
Town of Paradise Recovery Projects, Resiliency Improvements	**Early Warning System**: This project includes the installation of an audible communication tower at 21 locations throughout the Town of Paradise to increase awareness of various hazards including information of evacuation zones and warnings. **Category 4 Tree Removal**: This project includes an optional program for property owners to have dead or dying trees burned by the Camp Fire removed at a reduced cost. These trees are located on private property and are a threat. Fuels Reduction Project: This project includes a multi-faceted program to remove fire fuels from the public right of way in the Town of Paradise. **Defensible Space Code Enforcement**: This project includes proactive code enforcement and compliance measures to reduce fuels located on private property in Paradise. **Ignition Resistant Home Hardening Program**: This project includes proactive retrofits on existing structures to improve structure resiliency in the event of a wildfire.	Paradise	Town of Paradise	2020-2024
Undergrounding of Utilities	**Electric Telecommunications**: This project, initiated by PG&E in 2019 includes the conversion of all traditionally aerial electric facilities underground. Telecommunication facilities are also being included in joint trenching work with this project. The overall project will reduce community risk.	Paradise	Utility Companies	Ongoing

Source: Carollo Engineers 2022, Watkins-Bennett 2021, RWQCB 2019, City of Chico 2021g, BCAG 2022, and Town of Paradise 2021b

4.5.2 Cumulative Impact Analysis

The resource-specific cumulative impact analysis is provided in this section. These analyses consider those potential effects of the cumulative activities introduced in Table 4.5-1 combined with those of the Proposed Project discussed in Chapter 3.

4.5.2.1 Agriculture and Forestry Resources

The geographic study area for the cumulative impact analysis for agriculture and forestry resources is Butte County. The Proposed Project and cumulative projects listed in Table 4.5-1 are located within Butte County, which is located in the vast, productive floodplain of Sacramento River.

Cumulative impact thresholds for agriculture and forestry resources are the same as the impact thresholds presented in Section 3.2 Agriculture and Forestry Resources. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact AG-1:** Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use
- **Cumulative Impact AG-2:** Conflict with existing zoning for agricultural use, or a Williamson Act contract
- **Cumulative Impact AG-3:** Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by California Government Code Section 51104(g))
- **Cumulative Impact AG-4:** Result in the loss of forest land or conversion of forest land to non-forest use
- **Cumulative Impact AG-5:** Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use

Past and existing cumulative urban development within Butte County has contributed to substantial loss of productive farmland to non-agricultural use in the county over time. The DOC monitors conversion of farmland through its FMMP. According to DOC's *Butte County 2004-2018 Land Use Summary* table, approximately 4,844 acres of Prime Farmland within the county were converted to non-agricultural use or reclassified as another type of farmland during this period (DOC 2021c). In Butte County, from 2004 to 2018, Farmland of Statewide Importance increased by 74 acres and Unique Farmland decreased by 1,196 acres (DOC 2021c). Past and existing development within the county has resulted in a cumulatively significant impact on productive farmland, especially Prime Farmland, through conversion to urban and other uses.

As discussed in Section 3.2, the Proposed Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use, resulting in no impact. Cumulative projects listed in Table 4.5-1 have the potential to result in the conversion of productive farmland to non-agricultural use, depending on their locations. Cumulative projects would be subject to the land use plans, policies, or regulations that would support necessary growth while minimizing conversion of productive agricultural land to non-agricultural use, where possible. Therefore, the

Proposed Project would not contribute to cumulative impacts on this criterion, and impacts would not be cumulatively considerable in combination with other cumulative projects.

The Proposed Project would not conflict with existing zoning for an agricultural use, or a Williamson Act contract, resulting in no impact. Cumulative projects listed in Table 4.5-1 could conflict with existing zoning for agricultural use or Williamson Act contract, depending on their locations. Cumulative projects would be subject to zoning regulations, land use plans, policies, or regulations, that would otherwise protect and prevent conflict with land zoned for agricultural use and Williamson Act contract parcels. Therefore, the Proposed Project would not contribute to cumulative impacts on this criterion, and impacts would not be cumulatively considerable in combination with other cumulative projects.

The Proposed Project would not conflict with zoning for forest land, timberland, or timberland zoned Timberland Production, resulting in no impact. Additionally, the Proposed Project would not convert forestland to non-forest use, resulting in no impact. None of the cumulative projects listed in Table 4.5-1 under consideration are located within or adjacent to forest land or timberland. Further, the cumulative projects would be subject to compliance with zoning regulations, land use plans, policies, or regulations, that would otherwise protect forest and timber resources and prevent their conversion to non-forest use. Therefore, the Proposed Project would not contribute to cumulative impacts, and impacts would not be cumulatively considerable in combination with other cumulative projects.

As discussed under Impact AG-5 in Section 3.2, the Proposed Project would not involve changes in the existing environment that could result in conversion of farmland, to non-agricultural use or conversion of forest land to non-forest use, resulting in a less-than-significant impact. None of the cumulative projects under consideration are located within or adjacent to forest land or timberland. Cumulative projects listed in Table 4.5-1 have the potential to result in changes in the existing environment resulting in the conversion of farmland to non-agricultural use. However, cumulative projects, including the Proposed Project, would be subject to compliance with zoning regulations, land use plans, policies, or regulations, that would otherwise protect agricultural lands and prevent their conversion to non-agricultural use. Therefore, the Proposed Project's impacts from changes in the existing environment, in combination with other cumulative projects, would not be cumulatively considerable. Table 4.5-2 provides a summary of cumulative impacts on agriculture and forestry resources.

Table 4.5-2. Summary of Proposed Project Impact Contribution to Cumulative Agriculture and Forestry Resources Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use	NI	NCC	N/A	NCC
Cumulative Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract	NI	NCC	N/A	NCC

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact AG-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by California Government Code Section 51104(g))	NI	NCC	N/A	NCC
Cumulative Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use	NI	NCC	N/A	NCC
Cumulative Impact AG-5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use	LTS	NCC	N/A	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.2 Air Quality

The geographic study area for the cumulative impact analysis for air quality encompasses the entire Butte County. This is the area for which the BCAQMD has prepared plans for reducing specific types of air emissions and otherwise manages air quality to meet federal and state air quality standards. With regards to regional criteria air pollutants, no single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to cumulatively significant adverse air quality impacts.

Cumulative impact thresholds for air quality are the same as the thresholds presented in Section 3.3 Air Quality. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact AIR-1:** Conflict with or obstruct implementation of an applicable air quality plan
- **Cumulative Impact AIR-2:** Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard
- **Cumulative Impact AIR-3:** Expose sensitive receptors to substantial pollutant concentrations
- **Cumulative Impact AIR-4:** Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people

Conflict with Air Quality Plan

All construction jobs associated with cumulative projects would be temporary and would be expected to be filled by the current workforce within the County. Construction jobs associated with the Proposed Project will likely be filled by a mix of local and non-local workers; however, any temporary or permanent growth resulting from these positions would fall within the re-growth of the Town. Construction of cumulative projects, including the Proposed Project, would not result in employment

growth within the County beyond growth projections presented in the 2018 Air Quality Attainment Plan and the *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008).

As discussed under Impact AIR-1 in Section 3.3, the Proposed Project foster population growth in response to the 2018 Camp Fire recovery efforts. Cumulative projects, such as the City of Chico Nitrate Plan, Chico WPCP Upgrades, Paradise Irrigation District Project Water Intertie, Paradise Transit Center, and Town of Paradise Recovery Projects, could also foster population growth in the study area. However, any population growth as a result of cumulative projects, including the Proposed Project, would be contained within the Town and the City, which are under the jurisdiction of the BCAQMD. As discussed in Section 3.3, the minimal increase in employment during operation and maintenance of the Proposed Project would be consistent with the growth projections in the 2018 Air Quality Attainment Plan. Other cumulative projects would likely result in a similar increase in employment during operation and maintenance, which would be consistent with the growth projections in the 2018 Air Quality Attainment Plan. Therefore, the Proposed Project would not contribute to cumulative impacts from criteria air pollutants, and in combination with the cumulative projects, would not be cumulatively considerable.

Criteria Air Pollutant Emissions

The Sacramento Valley Air Basin in Butte County is currently in nonattainment for O_3; existing cumulative development has created a significant cumulative impact with regards to O_3 emissions. Potential growth and development within the cumulative study area could contribute to cumulative air quality impacts by contributing pollutants during construction and operation and maintenance within the cumulative study area.

Many of the cumulative projects include criteria pollutant emissions-generating activities during construction and operation and maintenance. Construction-related criteria air emissions would be generated from use of construction equipment, haul trucks, and construction labor commute vehicles. Operational criteria air emissions would vary depending on the project but may include emissions from mobile, energy, area, water, and solid waste sources. Cumulative projects, such as the Paradise Irrigation District Project Water Intertie, Tuscan Ridge Project, Chico WPCP Upgrades, Paradise Transit Center, and Town of Paradise Recovery Projects, would generate criteria air pollutant emissions during construction and/or operations and maintenance. In general, these projects, combined with the Proposed Project, would affect air quality in the cumulative study area during construction and/or operation and maintenance.

In developing thresholds of significance for criteria air pollutants, BCAQMD considered the emissions levels for which a project's individual emissions would be cumulatively considerable. Projects that do not exceed the BCAQMD's significance thresholds may be assumed to not result in a cumulatively considerable net increase of any criteria pollutant for which the region is nonattainment (BCAQMD 2014).

As discussed under AIR-2 in Section 3.3, during construction, the Proposed Project would generate criteria air pollutant emissions that do not exceed BCAQMD thresholds. Criteria air pollutant emissions from operation and maintenance activities of the Proposed Project would be minimal and immeasurable due to the infrequency of these activities. Cumulative projects listed in Table 4.5-1 have the potential to

generate criteria air pollutant emissions during construction and/or operation and maintenance. Cumulative projects, including the Proposed Project, would be subject to BCAQMD rules and regulations that would reduce criteria air pollutant emissions during construction and operation and maintenance. Therefore, the Proposed Project would not contribute to cumulative impacts from criteria air pollutants, and in combination with the cumulative projects, would not be cumulatively considerable.

Sensitive Receptors

The Proposed Project has the potential to generate TAC emissions from the use of diesel equipment during construction that could affect existing sensitive receptors. However, construction activities are temporary and short-term, and therefore, would not expose sensitive receptors to substantial pollutant concentrations. TAC emissions from operation and maintenance activities of the Proposed Project would be minimal and immeasurable due to the infrequency of these activities. Cumulative projects listed in Table 4.5-1 have the potential to generate TAC emissions during construction and/or operation and maintenance. Cumulative projects, including the Proposed Project, would be subject to BCAQMD rules and regulations that would reduce TAC emissions during construction and operation and maintenance. Based on these factors, the Proposed Project would not contribute to cumulative impacts on sensitive receptors, and in combination with the cumulative projects, would not be cumulatively considerable.

Odors

Construction of cumulative projects, including the Proposed Project, could result in emissions of odors in the form of diesel exhaust from construction equipment and vehicles. However, odors during construction would be short-term, limited in extent at any given time, and distributed throughout the area, and therefore, would not affect a substantial number of individuals. Odor emissions from operation and maintenance activities of the Proposed Project would be minimal and immeasurable due to the infrequency of these activities. The Proposed Project would include periodic inspection of odor control cannisters during routine operations and maintenance. Other cumulative projects would likely require similar odor control measures during operation and maintenance. Based on these factors, the Proposed Project would not contribute to cumulative impacts related to odors, and in combination with the cumulative projects, would not be cumulatively considerable. Table 4.5-3 provides a summary of cumulative impacts on air quality.

Table 4.5-3. Summary of Proposed Project Impact Contribution to Cumulative Air Quality Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact AIR-1: Conflict with or obstruct implementation of an applicable air quality plan	LTS	NCC	N/A	NCC
Cumulative Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard	LTS	NCC	N/A	NCC
Cumulative Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations	LTS	NCC	N/A	NCC
Cumulative Impact AIR-4: Result in other	LTS	NCC	N/A	NCC

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
emissions, such as those leading to odors, adversely affecting a substantial number of people				

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.3 Biological Resources

The geographic study area for the cumulative impact analysis for biological resources is defined by the Proposed Project's construction limits and includes the sewer service areas in and between Paradise and Chico.

Cumulative impact thresholds for biological resources are the same as the thresholds presented in Section 3.4 Biological Resources. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact BIO-1:** 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, regulations, or by the CDFW or USFWS
- **Cumulative Impact BIO-2:** Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS
- **Cumulative Impact BIO-3:** 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
- **Cumulative Impact BIO-4:** Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites
- **Cumulative Impact BIO-5:** Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- **Cumulative Impact BIO-6:** Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

In addition to the Proposed Project, the Paradise Irrigation District Project Water Intertie Tuscan Ridge Project, Paradise Transit Center, and Town of Paradise Recovery Projects could affect biological resources. Ground disturbance and vegetation clearing activities associated with each of the aforementioned projects, and the Proposed Project, would result in potentially significant cumulative impacts on biological resources, including special-status species, sensitive natural communities, and state or federally protected wetlands. However, implementing the mitigation measures listed below (and described in greater detail in Section 3.4) would reduce the Proposed Project's potential contribution to cumulative impacts to a less than significant level by minimizing direct or indirect impacts on these resources, requiring monitoring during construction to clarify those avoidance elements, and installing a

restoration protocol to bring the project footprint back to pre-construction conditions following construction:

- MM-BIO-1: Minimize Disturbance Footprint
- MM-BIO-2: Special-status Plant Surveys
- MM-BIO-3: Special-status Plant Avoidance
- MM-BIO-4: Biological Monitoring and Worker Environmental Awareness Training
- MM-BIO-5: Restoration of Temporarily Disturbed Areas
- MM-BIO-6: No Net Loss of Aquatic Resources
- MM-BIO-7: Sensitive Community Fencing
- MM-BIO-8: Dry Work Areas
- MM-BIO-9: Mapping of Elderberry Shrubs and Section 7 Consultation
- MM-BIO-10: No Net Loss of Elderberry Shrubs
- MM-BIO-11: Elderberry Transplanting
- MM-BIO-12: Avoidance Area
- MM-BIO-13: Chemical Use
- MM-BIO-14: Mowing
- MM-BIO-15: Frac-Out Plan
- MM-BIO-16: Western Pond Turtle Visual Encounter Surveys
- MM-BIO-17: Foothill Yellow-legged Frog Surveys
- MM-BIO-18: California Red-legged Frog Surveys
- MM-BIO-19: Conduct Construction Activities during the Active Period for Giant Garter Snakes
- MM-BIO-20: Minimize Potential Effects on Giant Garter Snake Habitat
- MM-BIO-21: MBTA and FGC-Protected Bird and Raptor Surveys
- MM-BIO-22: Protocol Swainson's Hawk Surveys
- MM-BIO-23: Nest Avoidance
- MM-BIO-24: Bat Surveys
- MM-BIO-25: American Badger Detection Surveys
- MM-BIO-26: State or Federally Protected Wetlands Mitigation

Impacts from the cumulative projects considered would be similar. However, they would require similar environmental review to identify and mitigate for specific impacts. Therefore, the Proposed Project's contribution to cumulative impacts on special-status species, sensitive natural communities, and state or federally protected wetlands would be less than significant with the implementation of aforementioned mitigation measures, and in combination with the cumulative projects would not be cumulatively considerable.

The Proposed Project would not interfere with movement of any fish or wildlife species, conflict with any local policies or ordinances protecting biological resources, or conflict with the provisions of an adopted habitat conservation plan. Impacts from the cumulative projects considered would be similar. However, they would require similar environmental review to identify and mitigate for specific impacts. Therefore, the Proposed Project would not contribute to cumulative impacts on these criteria, and impacts would

not be cumulatively considerable in combination with other cumulative projects. Table 4.5-4 provides a summary of cumulative impacts on biological resources.

Table 4.5-4. Summary of Proposed Project Impact Contribution to Cumulative Biological Resources Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact BIO-1: 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, regulations, or by the CDFW or USFWS	SI	CC	MM-BIO-1, MM-BIO-2, MM-BIO-3, MM-BIO-4, MM-BIO-5, MM-BIO-6, MM-BIO-7, MM-BIO-8, MM-BIO-9, MM BIO-10, MM-BIO-11, MM BIO-12, MM-BIO-13, MM-BIO-14, MM-BIO-15, MM-BIO-16, MM-BIO-17, MM-BIO-18, MM-BIO-19, MM-BIO-20, MM-BIO-21, MM-BIO-22, MM-BIO-23, MM-BIO-24, MM-BIO-25	NCC
Cumulative Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS	SI	CC	MM-BIO-1, MM-BIO-5, MM-BIO-6, MM-BIO-7, MM-BIO-8	NCC
Cumulative Impact BIO-3: 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	SI	CC	MM-BIO-1, MM-BIO-5, MM-BIO-6, MM-BIO-7, MM-BIO-8, MM-BIO-26	NCC
Cumulative Impact BIO-4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife	NI	NCC	N/A	NCC

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
corridors, or impede the use of native wildlife nursery sites				
Cumulative Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	NI	NCC	N/A	NCC
Cumulative Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	NI	NCC	N/A	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.4 Cultural Resources

The geographic study area for the cumulative impact analysis for cultural resources includes central and northern Butte County and was selected because these areas include the relatively undeveloped portions of the ancestral Mechoopda and Konkow territory, and those rural areas outside of the historically developed urban population center in Chico.

According to CEQA, the importance of cultural resources comes from the research value and the information that they contain. Therefore, the issue that must be explored in a cumulative analysis is the cumulative loss of that information. For sites considered less than significant, the information is preserved through recordation and test excavations, if necessary. Significant sites that are placed in open space easements avoid impacts on cultural resources and also preserve the data. Significant sites that are not placed within open space easements preserve the information through recordation, test excavations and data recovery programs that would be presented in reports and filed with the county and the California Historical Resources Information System.

Cumulative impact thresholds for cultural resources are the same as the thresholds presented in Section 3.5 Cultural Resources. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact CUL-1:** Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5.
- **Cumulative Impact CUL-2:** Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5.
- **Cumulative Impact CUL-3:** Disturb any human remains, including those interred outside of formal cemeteries.

The Paradise Irrigation District Project Water Intertie, Tuscan Ridge Project, Paradise Transit Center, and Town of Paradise Recovery Projects have the potential to impact cultural resources. Ground disturbance associated with each of the aforementioned projects, and the Proposed Project, could result in potentially significant cumulative impacts on previously recorded and/or newly discovered

cultural resources if identified within the footprint of each project. However, implementing **MM-CUL1: Targeted Archaeological Monitoring** and **MM-CUL-2: Follow Inadvertent Discovery Procedures** would reduce the Proposed Project's contribution to cumulative impacts to a less than significant level because appropriate procedures would be followed to ensure that any unanticipated cultural resources discovered during Project-related ground-disturbing activities are appropriately handled and documented and that all appropriate parties are contacted and coordinated with in a timely manner, in order to either avoid or minimize impacts on the cultural resources. Implementing these mitigation measures would provide assurances that the Proposed Project would not have a significant contribution to impacts on cultural resources meeting one of the significance criteria of the CRHR. With similar considerations and mitigation on other cumulative projects, impacts on cultural resources from Proposed Project, in combination with other cumulative projects, would not be cumulatively considerable. Table 4.5-5 provides a summary of cumulative impacts on cultural resources.

Table 4.5-5. Summary of Proposed Project Impact Contribution to Cumulative Cultural Resources Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5.	LTS	NCC	N/A	NCC
Cumulative Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5.	SI	CC	MM CUL-1 MM CUL-2	NCC
Cumulative Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries.	LTS	NCC	N/A	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.5 Energy

The geographic study area for the cumulative impact analysis for energy resources is Butte County. The Proposed Project and cumulative projects listed in Table 4.5-1 are located within Butte County.

Cumulative impact thresholds for energy are to the same as the thresholds presented in Section 3.6 Energy. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact ENG-1**: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation and maintenance
- **Cumulative Impact ENG-2**: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency

Potential growth and development within the cumulative study area could contribute to energy impacts by increasing energy demand during construction and operation and maintenance within the cumulative study area.

Cumulative projects, such as the Paradise Irrigation District Project Water Intertie, Chico WPCP Upgrades, Tuscan Ridge Project, Paradise Transit Center, and Town of Paradise Recovery Projects, would increase energy demand during construction and/or operational activities. Primary sources of energy use would be electricity, natural gas, and/or transportation fuel. In general, these projects, combined with the Proposed Project, would affect energy demand in the cumulative study area during construction and/or operation and maintenance. As presented in Section 3.6, the Proposed Project would result in a less than significant impact related to the wasteful, inefficient, or unnecessary consumption of energy during construction, operation, and maintenance. Cumulative projects, including the Proposed Project, would be subject to the plans, policies, or regulations that are aimed at improving vehicle fuel efficiency, improving energy efficiency, and enhancing energy conservation. Therefore, the Proposed Project's contribution would be less than significant, and in combination with the cumulative projects would not be cumulatively considerable.

The Proposed Project would not conflict with a state or local plan for renewable energy or energy efficiency, resulting in no impact. Construction of the Proposed Project in combination with other cumulative projects identified in Table 4.5-1 has the potential to result in cumulative energy impacts. A multitude of state regulations and legislative acts are aimed at improving vehicle fuel efficiency, improving energy efficiency, and enhancing energy conservation. These include, but are not limited to, AB 1493, Advanced Clean Cars Program, In-Use Off-Road Diesel-Fueled Fleets Regulation, SB 100, and 2017 Scoping Plan. The Proposed Project and other cumulative projects are required to comply with these adopted plans and regulations. Therefore, the Proposed Project would not contribute to cumulative impacts on this criterion, and impacts would not be cumulatively considerable in combination with other cumulative projects. Table 4.5-6 provides a summary of cumulative impacts on energy resources.

Table 4.5-6. Summary of Proposed Project Impact Contribution to Cumulative Energy Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact ENG-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation and maintenance	LTS	NCC	N/A	NCC
Cumulative Impact ENG-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency	NI	NCC	N/A	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.6 Geology, Soils, and Paleontological Resources

The geographic study area for the cumulative impact analysis for geology, soils, and paleontological resources is defined as the areas within and directly adjacent to the Town of Paradise and areas of unincorporated Butte County and Chico where the proposed pipeline alignment runs. The cumulative study area for geology, soils, and paleontological resources is not cumulatively additive across projects because each project site has a different set of geological formations and considerations.

Cumulative impact thresholds for geology, soils, and paleontological resources are the same as the thresholds presented in Section 3.7 Geology, Soils, and Paleontological Resources. Cumulative impacts are considered significant if the result in the following:

- **Cumulative Impact GEO-1:** Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42
    - Strong seismic ground shaking
    - Seismic-related ground failure, including liquefaction
    - Landslides
- **Cumulative Impact GEO-2:** Result in substantial soil erosion or the loss of topsoil
- **Cumulative Impact GEO-3:** 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
- **Cumulative Impact GEO-4:** Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property
- **Cumulative Impact GEO-5:** 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
- **Cumulative Impact GEO-6:** Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature

Geology and Soils

As discussed in Section 3.7, the Proposed Project is not located within an Alquist-Priolo Earthquake Fault Zone. As discussed in Section 3.7, use of vibration-generating equipment during construction of the Proposed Project may exacerbate ground shaking, liquefaction, landslides. Additionally, use of vibration-generating equipment during construction of the Proposed Project may exacerbate risks associated with unstable soils and expansive soils. With the implementation of **MM-GEO-1: Geologic Hazards** impacts related to ground shaking, liquefaction, landslides, unstable soils, and expansive soils would be reduced to less than significant. The Proposed Project would expose and disturb soils during construction, making them vulnerable to erosion. The Proposed Project would be subject to the SWRCB's CGP requirements and applicable grading permit requirements, which would ensure impacts related to soil erosion are less than significant. Additionally, the Proposed Project would not locate septic tanks or alternative wastewater disposal systems on soils incapable of adequate support.

Cumulative projects identified in Table 4.5-1 could result in damage to life and property from geologic and soils-related hazards during construction activities such as grading, excavations, or other ground disturbing activities. While these would be project-specific geologic- and soils-related risks during

construction, it is not anticipated that these impacts would combine across projects to create additional public risk. The magnitude of geologic- and soils-related hazards for individual cumulative projects would depend upon the location, type, and size of development and the specific hazards associated with individual sites. Cumulative projects would require individual environmental review with project-specific analysis to evaluate the geologic- and soils-related hazard risks. Specific geologic- and soils-related hazards associated with individual project sites would be limited to those sites without affecting other areas. Cumulative projects would be subject to the SWRCB's CGP requirements and applicable grading permit requirements, which would minimize soil erosion. Furthermore, cumulative projects would be subject to applicable regulations, building codes, and construction standards that are designed to reduce geology and soils-related hazards. Additionally, none of the cumulative projects include septic tanks or alternative wastewater disposal systems. Based on these factors, the Proposed Project's contribution to cumulative impacts on geology and soils would be less than significant with the implementation of mitigation measure **MM-GEO-1**, and in combination with the cumulative projects would not be cumulatively considerable.

Paleontological Resources

Potential growth and development within the cumulative study area could contribute to cumulative impacts on paleontological resources by disturbing, damaging, or destroying paleontological resources during construction and operation and maintenance within the cumulative study area. Once lost, such resources cannot be recovered.

Ground disturbance during construction of the Proposed Project could disturb unknown paleontological resources within the Modesto Formation. With the implementation of mitigation measure **MM-GEO-2: Inadvertent Discovery Protocol**, impacts on unknown paleontological resources would be less than significant. Future cumulative projects identified in Table 4.5-1 include ground-disturbing activities that could disturb, damage, or destroy paleontological resources. Cumulative projects would require individual environmental review with project-specific analysis to evaluate their impacts on unknown paleontological resources. Furthermore, cumulative projects would be subject to applicable regulations and construction standards that are designed to reduce potential impacts on paleontological resources from ground-disturbing activities. Therefore, the Proposed Project's contribution to cumulative impacts on paleontological resources would be less than significant with the implementation of mitigation measure **MM-GEO-2**, and in combination with the cumulative projects would not be cumulatively considerable. Table 4.5-7 provides a summary of cumulative impacts on geology, soils, and paleontological resources.

Table 4.5-7. Summary of Proposed Project Impact Contribution to Cumulative Geology, Soils, and Paleontological Resources Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact GEO-1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: a. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map	SI	CC	MM-GEO-1	NCC

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
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 b. Strong seismic ground shaking c. Seismic-related ground failure, including liquefaction d. Landslides				
Cumulative Impact GEO-2: Result in substantial soil erosion or the loss of topsoil	LTS	NCC	N/A	NCC
Cumulative Impact GEO-3: 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	SI	CC	MM-GEO-1	NCC
Cumulative Impact GEO-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property	SI	CC	MM-GEO-1	NCC
Cumulative Impact GEO-5: 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	NI	NCC	N/A	NCC
Cumulative Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	SI	CC	MM-GEO-2	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.7 Greenhouse Gas Emissions

The geographic study area for the cumulative impact analysis for GHG encompasses the state of California. Climate change is a global phenomenon resulting from the combined effects of GHG emissions produced worldwide. While the true study area affected by GHG emissions is global, for purposes of this EIR, the study area is considered to be the state of California. This study area is selected because GHG emissions generated by individual projects must comply with statewide GHG emissions reduction goals. The analysis is conducted within the framework of California's legislative and regulatory climate change framework, which is designed to reduce GHG emissions in the state over time to levels that substantially reduce California's contribution to global climate change.

Cumulative impact thresholds for GHG emissions are the same as the thresholds presented in Section 3.8 Greenhouse Gas Emissions. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact GHG-1:** Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment
- **Cumulative Impact GHG-2:** Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions

GHGs are global pollutants, unlike criteria air pollutants (such as O_3 precursors), which are primarily pollutants of regional and local concern. Given their long atmospheric lifetimes, GHGs emitted by countless sources worldwide accumulate in the atmosphere. No single emitter of GHGs is large enough to trigger global climate change on its own. Rather, climate change is the result of the individual contributions of countless past, present, and future sources. Therefore, GHG impacts are inherently cumulative. Consequently, the analysis of climate change impacts from production of GHGs as included in Section 3.8 is inherently cumulative in nature.

Potential growth and development within the cumulative study area could contribute to climate change impacts by contributing GHG emissions during construction and operation and maintenance within the cumulative study area.

A number of planned cumulative projects include GHG emissions-generating activities during construction and operation and maintenance. Construction-related GHG emissions would be generated by operation of construction equipment, fueling activities, materials hauling, and daily trips by construction workers. Operational GHG emissions would vary depending on the project but may include emissions from mobile, energy, area, water, and solid waste sources. Cumulative projects, such as the Paradise Irrigation District Project Water Intertie, Chico WPCP Upgrades, Tuscan Ridge Project, Paradise Transit Center, and Town of Paradise Recovery Projects, would generate GHG emissions during construction and/or operation and maintenance activities. In general, these projects, combined with the Proposed Project, would affect GHGs in the cumulative study area during construction and/or operation and maintenance. As presented in Section 3.8, the Project's construction GHG emissions would be below SMAQMD's threshold of significance for construction emissions. GHG emissions from operation and maintenance activities of the Proposed Project would be minimal and immeasurable due to the infrequency of these activities. Impacts from other cumulative projects would likely be similar. Therefore, the Proposed Project's contribution would be less than significant, and in combination with the cumulative projects would not be cumulatively considerable.

The Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, resulting in no impact. The Proposed Project, in combination with other cumulative projects identified in Table 4.5-1, has the potential to result in GHG impacts, which are inherently cumulative. Statewide efforts are underway to reduce GHG emissions, and the Proposed Project and other cumulative projects are required to comply with these adopted plans and goals. Therefore, the Proposed Project would not contribute to cumulative impacts on this criterion, and impacts would not be cumulatively considerable in combination with other cumulative projects. Table 4.5-8 provides a summary of cumulative impacts on GHG emissions.

Table 4.5-8. Summary of Proposed Project Impact Contribution to Cumulative Greenhouse Gas Emissions Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment	LTS	NCC	N/A	NCC
Cumulative Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reduction the emissions of GHG emissions	NI	NCC	N/A	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.8 Hazards and Hazardous Materials

The geographic study area for the cumulative impact analysis for hazards and hazardous materials is defined by the Proposed Project's construction limits. The cumulative study area for hazards and hazardous materials is not cumulatively additive across projects because each project site has a different set of hazardous materials and considerations.

Cumulative impact thresholds for hazards and hazardous material are the same as the thresholds presented in Section 3.9 Hazards and Hazardous Materials. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact HAZ-1:** Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- **Cumulative Impact HAZ-2:** 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
- **Cumulative Impact HAZ-3:** Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school
- **Cumulative Impact HAZ-4:** 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
- **Cumulative Impact HAZ-5:** 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
- **Cumulative Impact HAZ-6:** Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- **Cumulative Impact HAZ-7:** Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires

Transport, Use, or Disposal

Cumulative projects listed in Table 4.5-1 would involve the transport, use, and disposal of hazardous materials during construction and/or operation and maintenance. As discussed in Section 3.9, during construction, the Proposed Project would involve the transport and use of common construction materials such as fuel and grease, which could pose a threat as hazardous materials. Cumulative projects, including the Proposed Project, would be subject to the requirements of the SWRCB's CGP and the NPDES permit for discharges of storm water associated with construction and land disturbance activities. The CGP requires preparation and implementation of a SWPPP, which would include measures to safely use and store hazardous materials. Cumulative projects, including the Proposed Project, would be subject to federal, state, and regional requirements for the transport, use, and disposal of hazardous materials, which would reduce impacts. The Proposed Project has the potential to result in fuel and grease spills associated with the use of trucks and equipment during operation and maintenance activities. With the implementation of mitigation measure **MM-HAZ-1: Vehicle Equipment Access and Fueling**, impacts related to routine transport, use, or disposal of hazardous materials would be less than significant. It is possible that other cumulative projects could increase fuel and grease drips over existing levels during operation and maintenance. Other cumulative projects may also implement similar mitigation measure to reduce impacts related to hazardous materials. Therefore, the Proposed Project's contribution to cumulative hazardous materials impacts would be less than significant with the implementation of mitigation measure **MM-HAZ-1**. When combined with other cumulative projects, these impacts would not be cumulatively considerable.

Accidental Release

Cumulative projects, including the Proposed Project, would be required to implement a SWPPP with best management practices to reduce the likelihood and severity of the release of construction-related pollutants like fuel and grease to a less-than-significant level. Any contaminated soils encountered by the project would be managed, stored, and disposed of in accordance with requirements of the SWPPP and NPDES permit, which would minimize impacts related to the accidental release of hazardous materials. During operation and maintenance, the Proposed Project would involve the use of trucks and equipment that would use fuel and grease, which are considered hazardous materials. However, these vehicles would be operated in areas that already experiences vehicle traffic and maintenance activities would be very infrequent therefore not increasing the potential for fuel and grease drips significantly over existing levels. Impacts from other cumulative projects during operation and maintenance would likely be similar. Therefore, the Proposed Project's contribution would be less than significant, and in combination with other cumulative projects would not be cumulatively considerable.

Hazardous Emissions near Schools

The Proposed Project has the potential to emit hazardous materials or substances near schools during construction. It is possible that some cumulative projects could emit hazardous materials or substances near schools during construction, depending on the project location. Cumulative projects, including the Proposed Project, would require implementation of a project SWPPP, consistency with hazardous materials handling, and consistency with BCAQMD requirements regarding diesel particulate matter. During operation and maintenance, the Proposed Project would not increase the potential for hazardous emissions near schools significantly over existing levels. Impacts from other cumulative projects during operation and maintenance would likely be similar. Therefore, the Proposed Project's

contribution would be less than significant, and in combination with other cumulative projects would not be cumulatively considerable.

List of Hazardous Materials Sites

As discussed in Section 3.9, construction of the Proposed Project has the potential to encounter contaminated soils associated with an underground kerosine storage tank site on the Envirostor database. With the implementation of mitigation measure **MM-HAZ-2: Cypress Lane Site Specific Contaminated Soil Management Plan**, impacts from being located on a hazardous materials site during construction would be reduced to less than significant. It is possible that some cumulative projects could encounter contaminated soils during construction, depending on the project location. Any contaminated soils encountered by cumulative projects, including the Proposed Project, would be managed, stored, and disposed of in accordance with requirements of the SWPPP and NPDES permit. Additionally, any hazardous materials encountered, including contaminated soils, would be managed and disposed of in accordance with California Department of Toxic Substances Control regulations. Therefore, cumulative impacts on this criterion would be less than significant with the implementation of mitigation measure **MM-HAZ-2**, and in combination with the cumulative projects, would not be cumulatively considerable.

Airport Hazards

As discussed in Section 3.9, the Proposed Project would result in a safety hazard or excessive noise for people residing or working in the project area due to nearby public airports, resulting in no impact. None of the cumulative projects, including the Proposed Project, are located within two miles of a public airport. Therefore, the Proposed Project would not contribute to cumulative impacts on this criterion, and impacts would not be cumulatively considerable in combination with other cumulative projects.

Emergency Response Plan or Emergency Evacuation Plan

The Proposed Project has the potential to result in interruptions to emergency response or evacuation routes due to temporary road/lane closures during construction. Construction of the Proposed Project would occur along Skyway, which is an evacuation route in Paradise. With the implementation of mitigation measures **MM-HAZ-3: Road Closure Restrictions**, **MM-HAZ-4: Rapid Demobilization Plan**, **MM-HAZ-5: Evacuation Warning Procedures**, and **MM-HAZ-6: Traffic Management Plan**, impacts on emergency response plan or emergency evacuation plan during construction would be reduced to less than significant. There would be no interruptions to emergency response or evacuation routes during operation and maintenance activities. Impacts from other cumulative projects would likely be similar and would likely require similar mitigation measures. Therefore, the Proposed Project's contribution to cumulative impacts on this criterion would be less than significant with the implementation of aforementioned mitigation measures, and in combination with the cumulative projects, would not be cumulatively considerable.

Wildland Fire Hazards

The Proposed Project has the potential to expose workers to wildland fires during construction, operation, and maintenance. With the implementation of mitigation measures **MM-HAZ-1: Vehicle Equipment Access and Fueling**, **MM-HAZ-7: Incorporate Fire Prevention Measures**, **MM-HAZ-8: Incorporate Public Safety Measures**, and **MM-HAZ-9: Wildland Fire Area**, impacts from wildland fire exposure would be reduced to less than significant. It is possible that some cumulative projects could expose workers to wildland fires during construction and/or operation and maintenance, depending on project location. These cumulative projects would likely require similar mitigation measures to reduce

impacts related to wildland fires. Therefore, the Proposed Project's contribution to cumulative impacts on this criterion would be less than significant with the implementation of aforementioned mitigation measures, and in combination with the cumulative projects, would not be cumulatively considerable. Table 4.5-9 provides a summary of cumulative impacts on hazardous materials.

Table 4.5-9. Summary of Proposed Project Impact Contribution to Cumulative Hazards and Hazardous Materials Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials	SI	CC	MM-HAZ-1	NCC
Cumulative Impact HAZ-2: 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	LTS	NCC	N/A	NCC
Cumulative Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	LTS	NCC	N/A	NCC
Cumulative Impact HAZ-4: 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	SI	CC	MM-HAZ-2	NCC
Cumulative Impact HAZ-5: 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	NI	NCC	N/A	NCC
Cumulative Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	SI	CC	MM-HAZ-3, MM-HAZ-4, MM-HAZ-5	NCC
Cumulative Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	SI	CC	MM-HAZ-1, MM-HAZ-7, MM-HAZ-8, MM-HAZ-9	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.9 Hydrology and Water Quality

The cumulative projects are located throughout Butte County, primarily within Paradise and Chico. Therefore, the geographic study area for the cumulative impact analysis for hydrology and water quality includes waterbodies within and the groundwater basin underlying Paradise and Chico. The cumulative projects and the Proposed Project are all located within the Sacramento Valley groundwater basin.

Therefore, the Sacramento Valley groundwater basin is considered in the cumulative study area for hydrology and water quality.

Cumulative impact thresholds for hydrology and water quality are the same as the thresholds presented in Section 3.10 Hydrology and Water Quality. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact HYD-1:** Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality
- **Cumulative Impact HYD-2:** Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin
- **Cumulative Impact HYD-3:** Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    - Result in substantial erosion or siltation on or off-site
    - Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site
    - Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff
    - Impede or redirect flood flows
- **Cumulative Impact HYD-4:** In flood hazard zones, risk release of pollutants due to project inundation
- **Cumulative Impact HYD-5:** Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan

Under the cumulative condition, the population of Paradise is expected to increase as the Town focuses on recovery efforts from the 2018 Camp Fire. Population increases could result in additional commercial, recreational, industrial, and residential developments in Paradise.

Surface Water Quality

Potential growth and development within the cumulative study area could contribute to cumulative surface water quality degradation, and the collective effect of development could degrade stormwater quality by contributing pollutants during construction and operation and maintenance within the cumulative study area.

A number of cumulative projects in the cumulative study area, described below, involve improvements or changes in the current water and sewer systems in the Town. Legislation has also been introduced to streamline the process for developing certain water projects. For example, AB 32 would allow the use of the design-build procurement method for projects, which would help to fast-track projects like the Paradise Irrigation District Project Water Intertie. The Proposed Project would allow the sale of unused surface water in PID reservoirs to help make up for losing most of its customers after the Camp Fire and would involve transporting water to Chico. The Tuscan Ridge Project would build an on-site

sewage wastewater treatment and disposal facility to serve as a temporary workers' camp for those who are involved in the Camp Fire recovery and rebuilding efforts. Other projects such as the Tuscan Ridge Project, City of Chico Nitrate Plan, Chico WPCP Upgrades would also factor into changes in water quality and supply in the cumulative study area. In general, these projects, coupled with the Proposed Project, were intended to improve water quality in the cumulative study area during operation and maintenance. As discussed in Section 3.10, studies have shown evidence of high levels of fecal coliform and septic system effluent in water supply resulting in the degradation of water quality in the cumulative study area as a result of historical individually managed septic systems. As a result, in 1992 the Town of Paradise created the Town of Paradise Onsite Wastewater Management Zone in order to centralize the management of wastewater and improve public health. The Proposed Project would further improve public health and water quality in the cumulative study area by removing septic tanks and implementing an improved sewer system.

The additional amount of treated discharge entering into the Sacramento River as a result of Proposed Project operation and maintenance would also not impact water quality in the cumulative study area. The Chico WPCP is licensed to treat 12 mgd of wastewater and is operating at 6.3 mgd. The Proposed Project would add an additional 0.5 mgd of wastewater to the system during operation and maintenance, which would then be discharged into the Sacramento River. Consistent with existing conditions, the treated wastewater from the Chico WPCP would continue to be discharged to the Sacramento River through a submerged outfall diffuser and is regulated in accordance with NPDES Permit No. CA0079081 (Order No. R5-2016-0023). This incremental increase in discharge as a result of the Proposed Project is within the permitted allowance and would not violate water quality standards or waste discharge requirements.

The Proposed Project will be subject to applicable permitting requirements (Section 404, Section 401, the Streambed Alteration Agreement, CGP, Small MS4 permit, and other standard water treatment BMPs), which would minimize water quality impacts during construction. To minimize significant water quality impacts during construction to a less than significant level, the Proposed Project will implement mitigation measures **MM-HAZ-1: Vehicle and Equipment Access and Fueling, MM-HYD-1: Stormwater Management and Treatment Plan**, **MM-HYD-2: Construction Best Management Practices**, and **MM-BIO-15: Frac-Out Plan**. Impacts from other cumulative projects would likely be similar and would likely require similar mitigation measures. Therefore, the Proposed Project's contribution to cumulative water quality impacts would be less than significant with the implementation of aforementioned mitigation measures, and in combination with the cumulative projects would not be cumulatively considerable.

Groundwater

The projects considered in this cumulative analysis may require dewatering and the use of groundwater during construction. Impacts on groundwater from the cumulative projects would largely be temporary and localized during construction and likely not cause a net deficit in aquifer volume or lower the groundwater table. The cumulative projects could also involve the addition of new impervious surfaces that would reduce groundwater recharge. However, given the developed nature of the study area, the cumulative impact of the cumulative projects on groundwater recharge would not be significant. During construction and operation and maintenance, any cumulative projects would be required to conform to groundwater management plans and state, local, and regional policies regarding groundwater supplies,

such as the Butte County Groundwater Conservation Ordinance. Once constructed, the Proposed Project would not impact groundwater. Therefore, cumulative impacts on this criterion would be less than significant and the Proposed Project's contribution would not be cumulatively considerable.

Erosion

The Proposed Project has the potential to result in sediment transport from construction work near waterbodies. It is possible that some cumulative projects could increase sediment discharge into waterbodies, depending on the project location. Cumulative projects, including the Proposed Project, would be subject to the requirements of the SWRCB's CGP, which requires preparation and implementation of a SWPPP. The construction SWPPP would propose BMPs to minimize potential short-term increases in sediment transport caused by construction, including erosion control requirements and stormwater management. To minimize significant impacts associated with erosion or siltation during construction to a less than significant level, the Proposed Project will implement mitigation measure **MM-HYD-1: Stormwater Management and Treatment Plan**. Once constructed, the Proposed Project would not result in erosion or siltation. Impacts from other cumulative projects would likely be similar and would likely require similar mitigation measures. Therefore, cumulative impacts on this criterion would be less than significant with the implementation of **MM-HYD-1** and the Proposed Project's contribution would not be cumulatively considerable.

Surface Water Hydrology

Cumulative projects, such as the City of Chico Nitrate Action Plan, Chico WPCP Upgrades, Tuscan Ridge Project, Paradise Transit Center, and Town of Paradise Recovery Projects, have the potential to change the surface water hydrology in the study area on a temporary basis during construction or permanently by potentially impacting or relocating stormwater infrastructure. However, adhering to existing laws and permit processes that control streambed alteration and limit changes to drainages, such as the federal Clean Water Act and the SWRCB's CGP, would avoid cumulative impacts from these cumulative projects. Once constructed, stormwater facilities built as a part of these projects would capture and slow releases to waterways, thereby avoiding cumulative impacts. Construction of cumulative projects, including the Proposed Project, would result in construction flows to existing drainage systems as well as polluted runoff. Laws and permitting processes, including local stormwater permits, generally require new development projects to incorporate stormwater capture and infiltration features during construction. such that runoff volumes would not exceed the capacity of existing and planned stormwater facilities to accommodate the runoff. To minimize significant impacts associated with polluted runoff during construction to a less than significant level, the Proposed Project will implement mitigation measures **MM-HYD-1: Stormwater Management** and **Treatment Plan and MM-HYD-3: Flood Protection Plan**. Once constructed, the Proposed Project would not result in polluted runoff. Impacts from other cumulative projects would likely be similar and would likely require similar mitigation measures. Therefore, cumulative impacts on this criterion would be less than significant with the implementation of aforementioned mitigation measures and the Proposed Project's contribution would not be cumulatively considerable.

Floodplains

Future cumulative projects require work within a floodway or floodplain. All ongoing and planned cumulative projects, including the Proposed Project, are subject to and must comply with applicable

federal, state, and local policies, programs, and ordinances, which would reduce the impact on floodplains and flood risks during construction and operation and maintenance. The local flood control agencies and applicable flood control design criteria require projects in areas within the designated 100-year flood zones to design project-specific drainage systems in accordance with findings of site-specific studies. As discussed in Section 3.10, with the implementation of mitigation measure **MM-HYD-3: Flood Protection Plan**, the Proposed Project would have a less than significant impact from being located within a flood hazard zone. Construction associated with cumulative projects in such areas would be designed to comply with regulatory agency requirements as well and impacts on floodplains would require similar mitigation measures. Therefore, cumulative impacts on this criterion would be less than significant with the implementation of mitigation measure **MM-HYD-3** and the Proposed Project's contribution would not be cumulatively considerable.

Water Quality Control Plan or Sustainable Groundwater Management Plan

The Proposed Project will require regulatory permits from USACE (Section 404), the Regional Board (Section 401), CDFW (Streambed Alteration Agreement), SWRCB (CGP), and Small MS4 Permit. The Proposed Project will comply with NPDES permitting. As discussed in Section 3.10, with the implementation of mitigation measure **MM-HYD-1: Stormwater Management and Treatment Plan**, impacts on a water quality control plan or sustainable groundwater management plan would be reduced to a less than significant level. Cumulative projects listed in Table 4.5-1 would be subject to similar permitting requirements and would require similar mitigation measures. Therefore, cumulative impacts on this criterion would be less than significant with the implementation of mitigation measure **MM-HYD-1** and the Proposed Project's contribution would not be cumulatively considerable. Table 4.5-10 provides a summary of cumulative impacts on hydrology and water quality.

Table 4.5-10. Summary of Proposed Project Impact Contribution to Cumulative Hydrology and Water Quality Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	SI	CC	MM-HAZ-1, MM-HYD-1, MM-HYD-2, and MM-BIO-15	NCC
Cumulative Impact HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin	LTS	NCC	NA	NCC
Cumulative Impact HYD-3: 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: a. Result in substantial erosion or siltation on or off-site	SI	CC	MM-HYD-1, MM-HYD-3	NCC

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
b. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site c. Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff Impede or redirect flood flows				
Cumulative Impact HYD-4: In flood hazard zones, risk release of pollutants due to project inundation	SI	CC	MM-HYD-3	NCC
HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	SI	CC	MM-HYD-1	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.10 Land Use and Planning

The geographic study area for the cumulative impact analysis for land use and planning is defined by the Proposed Project's construction limits and includes all areas in and between Paradise and Chico, including unserved areas. This cumulative study area would capture impacts generated from the Proposed Project's construction and potential regional impacts on land use and planning.

Cumulative impact thresholds for land use and planning are the same as the impact thresholds presented in Section 3.11, Land Use and Planning. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact LU-1:** Physically divide an established community
- **Cumulative Impact LU-2:** Cause any 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

As discussed in Section 3.11, the Proposed Project would not physically divide an established community, resulting in no impact. As a result, by definition, the Proposed Project would not contribute to a significant cumulative impact. The cumulative projects listed in Table 4.5-1 would be subject to zoning requirements and require approval if zoning changes are proposed. According to the Town of Paradise 2022-2030 Housing Element Update, key parcels in the sewer service area would require rezoning, and a Sewer Service Overlay Zone will be established to allow increased densities up to 30 dwelling units per acre in the sewer service area (Town of Paradise 2022). The Proposed Project is consistent with the goals and policies in the Housing Element Update as it would serve most businesses in the Town and provide for future development of more multi-family residences, which is currently limited because of septic system constraints. It is possible that some cumulative projects could divide an established community depending on the project location. However, many of the cumulative projects under consideration, such as the Tuscan Ridge Project, City of Chico Nitrate Plan, Chico

WPCP Upgrade/Expansion Project, Paradise Transit Center, and Town of Paradise Recovery Projects, do not include major roads, and would be constructed on an existing site, on existing infrastructure, or underground, and would not divide an established community. During construction of the cumulative projects, staging of construction vehicles and equipment could impede road access and road closures might be required. Similar to the Proposed Project, these impacts would be temporary and road access would be restored once construction is complete. Therefore, the Proposed Project's impacts from dividing an established community, in combination with other cumulative projects, would not be cumulatively considerable.

The Proposed Project would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, resulting in no impact. As a result, by definition, it would not contribute to a significant cumulative impact. As stated in Table 3.11-1, the Proposed Project is consistent with applicable land use and planning goals and policies identified in Section 3.11 Land Use and Planning, and Appendix C, Regulatory Framework, including Town of Paradise General Plan Objective LUO-10, which calls for the construction and installation of a formal sewer system. The Town of Paradise is updating its General Plan in response to the 2018 Campfire, and will include updates to its land use, circulation, conservation, noise, open space, and air quality elements, as well as other new state laws. It is anticipated to be a minimum 3-year process (S. Hartman, personal communication, November 19, 2021). According to Susan Hartman, the Town Planning Manager, the Proposed Project is also consistent with the goals and policies of the updated Town of Paradise General Plan (S. Hartman, personal communication, November 19, 2021). The Proposed Project would also comply with goals, policies and objectives in the updated City of Chico General Plan The other cumulative activities defined in Table 4.5-1 would be subject to compliance with similar zoning regulations, land use plans, policies, or regulations, and would otherwise require approval by Butte County, the Town, and the City of Chico prior to construction. Based on these factors, the Proposed Project would not contribute to cumulative impacts on land use and planning, and in combination with the cumulative projects, would not be cumulatively considerable. Table 4.5-11 provides a summary of cumulative impacts on land use and planning.

Table 4.5-11. Summary of Proposed Project Impact Contribution to Cumulative Land Use and Planning Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact LU-1: Physically divide an established community	LTS	NCC	N/A	NCC
Cumulative Impact LU-2: Cause any 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.	LTS	NCC	N/A	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.11 Noise and Groundborne Vibration

Noise and groundborne vibration impacts are highly localized in nature. As such, the geographic study area for the cumulative impact analysis for noise includes the Proposed Project as well as a 1,000-foot buffer surrounding the Proposed Project, which includes sensitive receptors that could be exposed to noise and groundborne vibration impacts.

Cumulative impact thresholds for noise are the same as the thresholds presented in Section 3.12 Noise and Groundborne Vibration. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact NSE-1:** Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies
- **Cumulative Impact NSE-2:** Generate excessive groundborne vibration or groundborne noise levels
- **Cumulative Impact NSE-3:** Be located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within two miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels

Noise

Potential growth and development within the cumulative study area could contribute to cumulative noise impacts by generating noise during construction and operation and maintenance within the cumulative study area. Cumulative projects, such as the Paradise Irrigation District Project Water Intertie, Chico WPCP Upgrades, Tuscan Ridge Project, Paradise Transit Center, and Town of Paradise Recovery Projects, would generate noise during construction activities. Likewise, during construction, the Proposed Project could result in noise levels that would exceed the applicable daytime noise limits. However, Project-generated noise levels would not combine with the noise of these projects to result in cumulative noise impacts because temporary Proposed Project construction activities would not be located in close proximity to planned, concurrent construction projects. Further, construction-related noise is typically a site-specific impact that affects only those in the vicinity of the construction activities. Still, with the implementation of mitigation measure **MM-NSE-1: Minimize Construction Noise**, the Proposed Project's noise levels during construction would be within the allowable limits of all applicable jurisdictions. Noise levels from operation and maintenance activities of the Proposed Project would be minimal and immeasurable due to the infrequency of these activities. Impacts from other cumulative projects listed in Table 4.5-1 would likely be similar and would likely require similar mitigation measures. Therefore, with the implementation of mitigation measure **MM-NSE-1**, the Proposed Project's contribution to cumulative noise impacts would be less than significant. Cumulative noise impacts would be distinct in location and would not be expected to be additive, and therefore would not be cumulatively considerable.

Groundborne Vibration

Potential growth and development within the cumulative study area could contribute to cumulative groundborne vibration impacts by generating groundborne vibration during construction and operation and maintenance within the cumulative study area.

Cumulative projects, including the Paradise Irrigation District Project Water Intertie, Chico WPCP Upgrades, Tuscan Ridge Project, Paradise Transit Center, and Town of Paradise Recovery Projects, would be expected to generate groundborne vibrations during construction activities. During construction, groundborne vibration associated with the Proposed Project is not anticipated to result in structural damage within the cumulative study area. However, groundborne vibration associated with Proposed Project construction could exceed the criteria for human annoyance. However, Project-generated groundborne vibration levels would not combine with the noise levels of these projects to result in cumulative groundborne vibration impacts. This is because groundborne vibration generally only travels short distances from the vibration source and does not readily combine with other vibration sources to increase in magnitude because of differing frequencies. Even if construction of cumulative projects occurs on adjacent properties at the same time, it is unlikely that there would be multiple vibration sources (such as impact pile drivers) generating high levels of vibration at the same frequency and at the same time in proximity to the same sensitive receptors. Still, with the implementation of mitigation measure **MM-NSE-1: Minimize Construction Noise**, the Proposed Project's vibration levels on nearby noise-sensitive receptors would be below the criteria for human annoyance. Groundborne vibration levels from operation and maintenance activities of the Proposed Project would be minimal and immeasurable due to the infrequency of these activities. Impacts from other cumulative projects listed in Table 4.5-1 would likely be similar and would likely require similar mitigation measures. Therefore, with the implementation of mitigation measure **MM-NSE-1**, the Proposed Project's contribution to cumulative groundborne vibration impacts would be less than significant. Like noise impacts, cumulative impacts from groundborne vibration would be distinct in location and would not be expected to be additive, and therefore would not be cumulatively considerable.

Airport Noise

As discussed in Section 3.12 Noise and Groundborne Vibration, the Proposed Project would result in a less-than-significant impact on people residing or working in the area to excessive airport noise levels. Cumulative projects listed in Table 4.5-1 have the potential to expose people residing or working in the vicinity of public or private airports to excessive noise levels, depending on their locations. Cumulative projects, including the Proposed Project, would be subject to land use plans, policies, or regulations that support necessary growth while minimizing impacts from airports or airstrips on surrounding land uses. Therefore, the Proposed Project's contribution would be less than significant, and in combination with the cumulative projects would not be cumulatively considerable. Table 4.5-12 provides a summary of cumulative impacts on noise.

Table 4.5-12. Summary of Proposed Project Impact Contribution to Cumulative Noise and Groundborne Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact NOISE-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies	SI	CC	MM-NSE-1	NCC

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact NOISE-2: Generate excessive groundborne vibration or groundborne noise levels	SI	CC	MM-NSE-1	NCC
Cumulative Impact NOISE-3: Be located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within two miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels	LTS	NCC	N/A	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.12 Population and Housing

The geographic study area for the cumulative impact analysis for population and housing is defined as the jurisdictions that are within the Core and Extended Collection Systems and the Export Pipeline System alignment. This includes Paradise and Chico as well as the unincorporated areas of Butte County. This cumulative study area would capture impacts generated from the Proposed Project's construction and potential regional impacts on population and housing.

Cumulative impact thresholds for population and housing are the same as the thresholds presented in Section 3.13 Population and Housing. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact POP-1:** Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)
- **Cumulative Impact POP-2:** Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere

The Proposed Project, considered along with the cumulative projects, such as the City of Chico Nitrate Plan, Chico WPCP Upgrades, Paradise Irrigation District Project Water Intertie, Paradise Transit Center, and Town of Paradise Recovery Projects, could indirectly foster population growth through by installing improved infrastructure and wastewater treatment. As a matter of fact, many of these cumulative projects are in response the Camp Fire recovery efforts. As discussed in Section 3.1,3 Population and Housing, a substantial decrease of approximately 83 percent of the population in Paradise occurred as a result of the 2018 Camp Fire. Any inducement of the population as a result of the Proposed Project or other cumulative projects would be a regrowth or repopulation of this area once found to be the most populated area of Butte County. While population growth that might result indirectly from the Proposed Project would be contained in Paradise, other cumulative activities could induce growth in Chico or elsewhere. Therefore, the Proposed Project's contribution would be less than significant, and in combination with the cumulative projects would not be cumulatively considerable.

The Proposed Project would not displace substantial numbers of existing people or housing which would necessitate the construction of replacement housing, resulting in no impact. The Proposed Project and the cumulative projects would not acquire or take any residential-zoned land in the area. Many of the cumulative projects are infrastructure improvement projects that would occur at an existing site, on existing infrastructure, or below ground. Improvements would not displace people or housing. Therefore, the Proposed Project would not contribute to cumulative impacts on this criterion, and impacts would not be cumulatively considerable in combination with other cumulative projects. Table 4.5-13 provides a summary of cumulative impacts on population and housing.

Table 4.5-13. Summary of Proposed Project Impact Contribution to Cumulative Population and Housing Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact POP-1: Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)	LTS	NCC	N/A	NCC
Cumulative Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere	NI	NCC	N/A	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.13 Public Services

The geographic study area for the cumulative impact analysis for public services is defined by the Proposed Project's construction limits and includes all areas in and between Paradise and Chico

Cumulative impact thresholds for recreation are the same as the impact thresholds presented in Section 3.14 Public Services. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact PS-1:** 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 following public services:
    a. Fire Protection
    b. Police Protection
    c. Schools
    d. Other Public Facilities

Construction of Cumulative projects, including the Proposed Project, would not directly impact fire protection facilities, police protection facilities, schools, and other public facilities. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction of

cumulative projects, including the Proposed Project. As discussed in Section 3.14, with the implementation of mitigation measure **MM-HAZ-6: Traffic Management Plan**, the Proposed Project's impacts on fire protection facilities, police protection facilities, schools, and other public facilities during construction would be less than significant. The Proposed Project, Chico WPCP Upgrades, City of Chico Nitrate Plan, Paradise Irrigation District Project Water Intertie, Tuscan Ridge Project, Paradise Transit Center, and Town of Paradise Recovery Projects are all infrastructure projects intended to improve water supply and quality or the wastewater system. None of the cumulative projects, including the Proposed Project, would result in any permanent impacts to fire protection facilities, police protection facilities, schools, and other public facilities. Some of these projects, including the Proposed Project and the Chico WPCP Upgrades, could indirectly induce population growth, resulting in the need for additional fire protection facilities, police protection facilities, schools, and other public facilities. However, the Town of Paradise General Plan Update would consider future development in the area and further include elements and policies that address the need for additional public services. Impacts from other cumulative projects listed in Table 4.5-1 would likely be similar and would likely require similar mitigation measures. Therefore, the Proposed Project's contribution to cumulative public services impacts would be less than significant with the implementation of mitigation measure **MM-HAZ-6**, and in combination with the cumulative projects would not be cumulatively considerable. Table 4.5-14 provides a summary of cumulative impacts on public services.

Table 4.5-14. Summary of Proposed Project Impact Contribution to Cumulative Public Services Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact PS-1: 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 following public services: a. Fire Protection b. Police Protection c. Schools d. Other Public Facilities	SI	CC	MM-HAZ-6	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.14 Recreation

The geographic study area for the cumulative impact analysis for recreation is defined by the Proposed Project's construction limits and includes all areas in and between Paradise and Chico

Cumulative impact thresholds for recreation are the same as the impact thresholds presented in Section 3.15 Recreation. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact REC-1:** 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
- **Cumulative Impact REC-2:** Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment

The Proposed Project, Chico WPCP Upgrades, City of Chico Nitrate Plan, Paradise Irrigation District Project Water Intertie, Tuscan Ridge Project, Paradise Transit Center, and Town of Paradise Recovery Projects are all infrastructure projects intended to improve water supply and quality or the wastewater system. None of the cumulative projects, including the Proposed Project, would result in any permanent impacts to recreational facilities. Some of these projects, including the Proposed Project, the Chico WPCP Upgrades, and the Town of Paradise Recovery Projects, could induce population growth, resulting in the need for additional recreational facilities. However, the Town of Paradise General Plan Update would consider the need for additional recreational facilities and balance these needs against local goals and policies. Cumulative projects, including the Proposed Project, would not directly result in permanent acquisition, displacement, or relocation of parks and recreational facilities. During Project construction, temporary road and bike path closures may be required that could limit access to parks and recreational facilities. Minor increases in recreational use at other available facilities may occur on a short-term basis, but substantial physical deterioration of these facilities is not expected to occur or to be accelerated. Impacts from other cumulative projects listed in Table 4.5-1 would likely be similar. Therefore, the Proposed Project would not contribute to cumulative recreation impacts, and impacts would not be cumulatively considerable in combination with other cumulative projects. Table 4.5-15 provides a summary of cumulative impacts on recreation.

Table 4.5-15. Summary of Proposed Project Impact Contribution to Cumulative Recreation Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact REC-1: Increase the use of existing neighborhood and regional parks or recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated	LTS	CC	N/A	NCC
Cumulative Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment	LTS	CC	N/A	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.15 Transportation

The geographic study area for the cumulative impact analysis for transportation is defined by the Proposed Project's construction footprint within Paradise, Chico, and the unincorporated county between the two where the Export Pipeline System would be installed. This cumulative study area

would capture impacts generated from the Proposed Project's construction and potential regional impacts on transportation.

Cumulative impact thresholds for transportation are the same as the thresholds presented in Section 3.16 Transportation. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact TRA-1:** Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities
- **Cumulative Impact TRA-2:** Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)
- **Cumulative Impact TRA-3:** Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- **Cumulative Impact TRA-4:** Result in inadequate emergency access

The Proposed Project, considered along with the cumulative projects, including the Paradise Irrigation District Project Water Intertie, Chico WPCP Upgrades, Tuscan Ridge Project, Paradise Transit Center, and Town of Paradise Recovery Projects, would have potential for temporary construction-related transportation impacts and traffic operations degradation. The Proposed Project would implement mitigation measure **MM-HAZ-6: Traffic Management Plan** to reduce transportation impacts during construction to a less-than-significant level. Other cumulative projects may also implement a similar mitigation measure to minimize transportation impacts. Cumulative projects, including the Proposed Project, do not involve the permanent closure of any roads or features that would substantially impact the transportation system or circulation in the region. Therefore, the Proposed Project's cumulative contribution to conflicting with a transportation program, plan, ordinance, or policy would be less than significant with the implementation of mitigation measure **MM-HAZ-6**. When combined with other cumulative projects, these impacts would not be cumulatively considerable.

The Proposed Project and cumulative projects would not conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). This is because the Proposed Project and cumulative projects would not cause an increase in travel for the future besides the increase in trips due to construction. Therefore, the Proposed Project would not significantly contribute to a cumulative impact on inconsistencies with CEQA Guidelines Section 15064.3, subdivision (b), and in combination with the cumulative projects would not be cumulatively considerable.

Finally, the Proposed Project and the cumulative projects would not involve any permanent hazard geometric design feature or incompatible uses. This is because the Proposed Project and most of the cumulative projects, such as the Tuscan Ridge Project, City of Chico Nitrate Plan, Paradise Irrigation District Project Water Intertie, Paradise Transit Center, and Town of Paradise Recovery Projects, are infrastructure improvement projects and would largely occur on an existing site, on existing infrastructure, or underground. Based on these factors, the Proposed Project would not significantly contribute to a cumulative impact on transportation, and in combination with the cumulative projects, would not be cumulatively considerable.

The Proposed Project, considered along with the cumulative projects, including the Paradise Irrigation District Project Water Intertie, Chico WPCP Upgrades, Tuscan Ridge Project, Paradise Transit Center, and Town of Paradise Recovery Projects, would have potential to interfere with emergency access during construction. The Proposed Project would implement mitigation measure **MM-HAZ-6: Traffic Management Plan** to reduce impacts associated with inadequate emergency access during construction to a less-than-significant level. Other cumulative projects may also implement a similar mitigation measure. Cumulative projects, including the Proposed Project, would not include any permanent impacts to emergency response routes. Therefore, the Proposed Project's cumulative contribution to inadequate emergency access would be less than significant with the implementation of mitigation measure **MM-HAZ-6**. When combined with other cumulative projects, these impacts would not be cumulatively considerable. Table 4.5-16 provides a summary of cumulative impacts on transportation.

Table 4.5-16. Summary of Proposed Project Impact Contribution to Cumulative Transportation Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities	SI	CC	MM-HAZ-6	NCC
Cumulative Impact TRA-2: Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)	LTS	NCC	N/A	NCC
Cumulative Impact TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)	LTS	NCC	N/A	NCC
Cumulative Impact TRA-4: Result in inadequate emergency access	SI	CC	MM-HAZ-6	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.16 Tribal Cultural Resources

The geographic study area for the cumulative impact analysis for tribal cultural resources includes central and northern Butte County and was selected because these areas include the relatively undeveloped portions of the ancestral Mechoopda and Konkow territory, and those rural areas outside of the historically developed urban population center in Chico.

As discussed in Section 4.5.2.4, according to CEQA, the importance of cultural resources comes from the research value and the information that they contain. Therefore, the issue that must be explored in a cumulative analysis is the cumulative loss of that information.

Cumulative impact thresholds for tribal cultural resources are the same as the thresholds presented in Section 3.17 Tribal Cultural Resources. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact TCR-1:** Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
    - Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or
    - A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The Chico WPCP Upgrades, Paradise Irrigation District Project Water Intertie, Tuscan Ridge Project, Paradise Transit Center, and Town of Paradise Recovery Projects have the potential to impact TCRs. Ground disturbance associated with each of the aforementioned projects, and the Proposed Project, could result in potentially significant cumulative impacts on previously recorded and/or newly discovered TCR if identified within the footprint of each project. However, implementing **MM-TCR-1: Coordination with Konkow Valley Band of Maidu and Mechoopda Indian Tribe** and **MM-TCR-2: Tribal Cultural Monitoring** would reduce the Proposed Project's contribution to cumulative impacts to a less than significant level because appropriate procedures would be followed to avoid impact on TCR in sensitive areas identified by the tribes during Proposed Project-related ground-disturbing activities. Implementation of these measures would provide assurances that the Proposed Project would not have a significant contribution to impacts on TCR that meet significance criteria of the CRHR. Impacts from other cumulative projects listed in Table 4.5-1 would likely be similar and would likely require similar mitigation measures. Therefore, the Proposed Project's contribution to cumulative impacts on tribal cultural resources would be less than significant with the implementation of mitigation measures **MM-TCR-1** and **MM-TCR-2**, and in combination with the cumulative projects would not be cumulatively considerable. Table 4.5-17 provides a summary of cumulative impacts on tribal cultural resources.

Table 4.5-17. Summary of Proposed Project Impact Contribution to Cumulative Tribal Cultural Resources Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: • Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or	SI	CC	MM-TRC-1, MM-TCR-2	NCC

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
• A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.17 Utilities and Service Systems

The geographic study area for the cumulative impacts analysis for utilities and service systems is defined by the Proposed Project's construction footprint within Paradise, Chico, and unincorporated Butte County between the two where the export pipeline would be installed. This cumulative study area would capture impacts generated from the Proposed Project's construction and potential regional impacts due to the nature of utility connections.

Cumulative impact thresholds for public utilities are the same as the thresholds presented in Section 3.18 Utilities and Service Systems. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact UTIL-1:** Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects
- **Cumulative Impact UTIL-2:** Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years
- **Cumulative Impact UTIL-3:** Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments
- **Cumulative Impact UTIL-4:** 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
- **Cumulative Impact UTIL-5:** Comply with federal, state, and local management and reduction statutes and regulations related to solid waste

Relocation and Construction of Utility Infrastructure

As discussed in Section 3.18, the Proposed Project would not require or result in relocating or constructing utility infrastructure. However, utilities could be affected during construction of the Proposed Project, with the potential for disruption of utility service. The Proposed Project would implement mitigation measure **MM-UTIL-1: Minimize Utility and Service System Disruptions** to reduce impacts on utility service during construction to a less-than-significant level. Cumulative projects, such as the

Chico WPCP Upgrades, Paradise Irrigation District Project Water Intertie, Tuscan Ridge Project, Paradise Transit Center, and Town of Paradise Recovery Projects, would involve ground-disturbing work during construction that could intersect with utility infrastructure. PG&E is also currently relocating their utility infrastructure underground in the Town of Paradise. However, it is assumed that cumulative projects could avoid or otherwise restore or replace electric infrastructure, stormwater drainage, or telecommunications facilities and that exposed ground from construction activities would be restored. Other cumulative projects may also implement a similar mitigation measure to minimize impacts on utility service. Any potential service disruptions would be short term and would require coordination with utility service providers, the Town, and the City, depending on the location of the service interruption. Based on these factors, the Proposed Project's contribution to cumulative impacts on utility service would be less than significant with the implementation of mitigation measure **MM-UTIL-1**. When combined with other cumulative projects, these impacts would not be cumulatively considerable.

Water Supply

As discussed in Section 3.18, the Proposed Project would have no impact on water supply. Water supply required during construction of the Proposed Project would be the responsibility of the construction contractor and would only be required temporarily during the duration of construction. No potable water would be required during operation and maintenance of the Proposed Project. Other cumulative projects may require use of water supply during construction and/or operation and maintenance. However, projects such as the City of Chico Nitrate Plan, Chico WPCP Upgrades, Tuscan Ridge Project, Paradise Irrigation District Project Water Intertie, Paradise Transit Center, and Town of Paradise Recovery Projects would likely only require water supply during the duration of construction and would not require water supply during operation and maintenance given that these are largely infrastructure improvement projects. Therefore, the Proposed Project would not contribute to significant cumulative impacts on water supply, and in combination with other cumulative projects, would not be cumulatively considerable.

Wastewater

As discussed in Section 3.18, the Proposed Project would have no impact on wastewater generation. Other cumulative projects would generate wastewater temporarily during the duration of construction. It is assumed that cumulative projects involved in the construction of wastewater treatment, such as the Tuscan Ridge Project, City of Chico Nitrate Plan, Chico Upgrades, and Paradise Irrigation District Project Water Intertie , would have similar objectives as the Proposed Project. While these projects are not part of the Proposed Project's sewer collection system, these projects would allow for more efficient wastewater management compared to the region's existing sewer systems. Therefore, it is anticipated that some of these projects would result in beneficial cumulative impacts on wastewater. As a result, The Proposed Project would not contribute to significant cumulative impacts on wastewater, and in combination with other cumulative projects, would not be cumulatively considerable.

Solid Waste

As discussed in Section 3.18, the Proposed Project would have no impact on solid waste. The Proposed Project would generate solid waste during construction; however, the volume of waste is within the capacity accommodated by the existing landfills in the region. No solid waste would be generated during operation and maintenance. The Proposed Project has the potential to foster population regrowth as a result of Camp Fire recovery efforts which could place an additional demand on landfills. However, long-term landfill usage would be similar to pre-Camp Fire levels and within the approved capacities. The Proposed Project would also comply with federal, state, and local management and reduction statutes and regulations related to solid waste, as discussed in Table 3.18-2, Consistency with State and Local

Plans, Policies, and Regulations. Other cumulative projects in the area would also generate solid waste during construction and/or operation and maintenance; however, these projects would be subject to compliance with federal, state, and local regulations regarding solid waste. While there is a potential for cumulative projects listed in Table 4.5-1 to generate solid waste, these projects would require coordination with existing landfills or redistribution to other landfills with adequate capacity. The Proposed Project would not contribute to significant cumulative impacts on solid waste, and in combination with other cumulative projects, would not be cumulatively considerable. Table 4.5-18 provides a summary of cumulative impacts on utilities and service systems.

Table 4.5-18. Summary of Proposed Project Impact Contribution to Cumulative Utilities and Service Systems Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects	SI	CC	MM-UTIL-1	NCC
Cumulative Impact UTIL-2: Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years	NI	NCC	N/A	NCC
Cumulative Impact UTIL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments	NI	NCC	N/A	NCC
Cumulative Impact UTIL-4: 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	NI	NCC	N/A	NCC
Cumulative Impact UTIL-5: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste	NI	NCC	N/A	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

4.5.2.18 Wildfire

The geographic study area for the cumulative impact analysis for wildfire is defined as the areas within and directly adjacent to the Town of Paradise and areas of unincorporated Butte County and Chico where the proposed pipeline alignment runs.

Cumulative impact thresholds for hazards and hazardous material are the same as the thresholds presented in Section 3.19 Wildfire. Cumulative impacts are considered significant if they result in the following:

- **Cumulative Impact FIRE-1:** Substantially impair an adopted emergency response plan or emergency evacuation plan
- **Cumulative Impact FIRE-2:** Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire
- **Cumulative Impact FIRE-3:** 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
- **Cumulative Impact FIRE-4:** 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

Emergency Response Plan or Emergency Evacuation Plan

The Proposed Project has the potential to result in interruptions to emergency response or evacuation routes due to temporary road/lane closures during construction. Construction of the Proposed Project would occur Skyway, which is an evacuation route in Paradise. With the implementation of mitigation measures **MM-HAZ-3: Road Closure Restrictions**, **MM-HAZ-4: Rapid Demobilization Plan**, **MM-HAZ-5: Evacuation Warning Procedures**, and **MM-HAZ-6: Traffic Management Plan**, impacts on emergency response plan or emergency evacuation plan during construction would be reduced to less than significant. There would be no interruptions to emergency response or evacuation routes during operation and maintenance activities. Impacts from other cumulative projects would likely be similar and would likely require similar mitigation measures. Therefore, the Proposed Project's contribution to cumulative impacts on this criterion would be less than significant with the implementation of aforementioned mitigation measures, and in combination with the cumulative projects, would not be cumulatively considerable.

Exacerbate Wildfire Risks

The Proposed Project is located in a VHFHSZ and has the potential to exacerbate wildfire risks during construction that could affect the public and the environment. With the implementation of mitigation measures **MM-HAZ-1: Vehicle Equipment Access and Fueling**, **MM-HAZ-7: Incorporate Fire Prevention Measures**, **MM-HAZ-8: Incorporate Public Safety Measures**, and **MM-HAZ-9: Wildland Fire Area**, impacts from exacerbating wildfire risks would be reduced to less than significant. Operation and maintenance activities associated with the Proposed Project would not exacerbate wildfire risks that affect the public or the environment. It is possible that some cumulative projects could exacerbate wildfire risks during construction, operation and maintenance, depending on project location. These cumulative projects would likely require similar mitigation measures to reduce impacts from exacerbating wildfire risks. Therefore, the Proposed Project's contribution to cumulative impacts on these criteria would be less than significant with the implementation of aforementioned mitigation measures, and in combination with the cumulative projects, would not be cumulatively considerable.

Fire-related Flooding or Landslides

Given the sloped topography of the Town, the Proposed Project has the potential to create runoff or alter drainage patterns during construction. With the implementation of mitigation measures **MM-HYD-1: Stormwater Management and Treatment Plan**, **MM-HYD-3: Flood Protection Plan**, and **MM-GEO-1: Minimize Geologic Hazards,** impacts from exposing people or structures to significant

risks, including downslope or downstream flooding or landslides, would be reduced to less than significant. Operation and maintenance of the Proposed Project would not involve activities that create runoff or alter drainage. Impacts from other cumulative projects would likely be similar and would likely require similar mitigation measures. Therefore, cumulative impacts on this criterion would be less than significant with the implementation of aforementioned mitigation measures and the Proposed Project's contribution would not be cumulatively considerable. Table 4.5-19 provides a summary of cumulative impacts on wildfires.

Table 4.5-19. Summary of Proposed Project Impact Contribution to Cumulative Wildfire Impacts

Impact	Level of Cumulative Significance	Incremental Project Contribution	Applicable Project Mitigations	Incremental Impact After Mitigation
Cumulative Impact FIRE-1: Substantially impair an adopted emergency response plan or emergency evacuation plan	SI	CC	MM-,HAZ-3 MM-HAZ-4, MM-HAZ-5, MM-HAZ-6	NCC
Cumulative Impact FIRE-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire	SI	CC	MM-HAZ-1, MM-,HAZ-7 MM-HAZ-8, MM-HAZ-9	NCC
Cumulative Impact FIRE-3: 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	SI	CC	MM-HAZ-1, MM-HAZ-7, MM-HAZ-8, MM-HAZ-9	NCC
Cumulative Impact FIRE-4: 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	SI	CC	MM-HYD-1, MM-HYD-3, MM-GEO-1	NCC

Notes: CC = cumulatively considerable, N/A = not applicable, NCC = not cumulatively considerable, NI = no impact, LTS = less than significant impact, SI = significant impact

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5. Alternatives

5.1 Introduction

5.1.1 CEQA Requirements

This chapter describes alternatives to the Proposed Project, consistent with CEQA Guidelines Section 15126.6. This chapter presents a description of the alternatives that were considered but eliminated from further consideration, followed by an analysis of the five alternatives evaluated, including the No Project Alternative. A comparison of the alternatives to the Proposed Project is provided, and the environmentally superior alternative is identified.

CEQA Guidelines Section 15126.6(a) states that "an EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation."

Further, an EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative and/or infeasible (CEQA Guidelines Section 15126.6(f)(3)). Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent) (CEQA Guidelines Section 15126.6(f)(1)).

The CEQA Guidelines specifically require consideration of a "No Project" alternative. Including a No Project alternative allows decision-makers to compare the impacts of approving the project with the impacts of not approving the project. The No Project alternative is discussed in detail in Section 5.3.1, No Project Alternative.

In addition to the No Project Alternative and the Alternatives evaluated in the PEIR (Section 5.3), this chapter also introduces alternatives considered during the early planning process that were eliminated from further consideration. These alternatives, as discussed in Section 5.2, do not respond to or reduce significant impacts from the Proposed Project; however, they are included to describe the background of alternatives screening process and to present those results.

5.1.2 Project Objectives and Goals

Alternatives were evaluated and considered largely based on their ability to meet the objectives and goals of the Proposed Project. As discussed in Section 2.3 Project Need and Objectives, the objectives and associated goals of the Proposed Project are as follows:

- Provide long-term, efficient, reliable treatment of wastewater in a cost-effective, environmentally beneficial manner to current and returning Town residents, in a manner acceptable to the RWQCB and other permitting agencies;
    - Accommodate regrowth while reducing further environmental degradation of groundwater and surface water from failing septic systems;
    - Reduce the public health risk associated with failing septic systems;
- Generate economic recovery by eliminating septic-related capacity limitations, as well as the general burden of on-site wastewater management for businesses;
    - Promote the return or arrival of essential community services and businesses by removing restrictions caused by on-site septic systems;
- Provide for the ability to construct and maintain affordable housing, specifically multi-family housing;
    - Support centralizing affordable housing to Paradise's urban core, along major evacuation routes.

5.2 Alternatives Considered but Eliminated from Detailed Consideration

Per CEQA Guidelines Section 15126.6, the EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR also should identify any alternatives that were considered by the lead agency but were rejected and should briefly explain the reasons underlying the lead agency's determination to remove these alternatives from consideration. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are:

9. failure to meet most of the project objectives,
10. effects that cannot be reasonably ascertained, for which implementation is remote and speculative,
11. infeasibility, or
12. inability to avoid significant environmental impacts that could result from implementation of the Proposed Project.

Per CEQA Guidelines Section 15126.6, discussion on alternatives to the proposed project should focus on those alternatives that feasibly accomplish most of the basic objectives and avoid or substantially lessen one or more of the significant effects (CEQA Guidelines Section 15126.6 [b]). As used here, feasible means ""capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." (14 CCR Section 15364. See also PRC Section 21061.1). Specific factors may include:

- Site suitability;
- Economic viability;
- Availability of infrastructure;
- Availability of infrastructure;

- General plan consistency;
- Other plans or regulatory limitations;
- Jurisdictional boundaries;
- Whether the project proponent already owns the site; and
- Whether the project proponent can acquire, control, or have access to the site if it does not own it. (14 CCR Section 15126.6(f)(1))

As such, the Town considered the following Project alternatives, which were developed during early planning efforts but eliminated them from further consideration, as explained in the following sections:

- Local construction of a new wastewater treatment plant in Town of Paradise
- Neal Road export pipeline alignment
- Butte Creek alignment spur within the Skyway Export Pipeline System alignment

5.2.1 Local Construction of New Wastewater Treatment Plant

Since 1969, the Town has prepared 13 different studies in its efforts to identify a viable wastewater solution for the Town (Section 2.2 Project Background). All of those studies considered a sewer collection system within the Town to gather wastewater that currently goes to existing septic tank systems and also assessed alternatives for treating and discharging or reusing the wastewater gathered by that collection system. The studies considered building a new wastewater treatment plant near the Town, to be owned and operated by the Town, with various options for reusing or discharging the treated wastewater. The studies also considered piping the wastewater to the City of Chico's WPCP, for treatment. In the 2017 Town of Paradise Sewer Project, Alternative Analysis and Feasibility Report (Bennett Engineering 2017), construction of a local wastewater treatment plant was not recommended, primarily due to funding and land use restrictions. However, following the devastation caused by the November 2018 Camp Fire, the Town Council voted to reconsider a local wastewater treatment alternative because of the potential for more funding becoming available; availability of more land to consider as a location for a local WWTP due to the devastation caused by the Camp Fire; and because the Town would have more control over future decisions related to wastewater management if it owned its own wastewater treatment plant. The four local alternatives that were considered are presented in Table 5.2-1. The table also provides reasons why these alternatives were found to be infeasible and were not considered in this EIR. For these reasons, the local wastewater treatment alternative was eliminated from consideration due to infeasibility, as described in CEQA Guidelines Section 15126.6 (criterion 2 above).

As discussed in Section 2.3.2, Project Objectives and Goals, removing septic systems in areas where specific systems have failed, or are projected to fail would directly respond to the goals and priorities identified in SWECB's Strategic Plan. The document also describes SWRCB's Strategic Priority Actions, and in a discussion on wastewater infrastructure and sustainability, states:

> *The need for updated and new infrastructure is particularly critical for small communities with very limited resources. The State Water Board will emphasize a renewed focus on small community wastewater projects and make it a priority to help ensure that small and/or disadvantaged communities have the resources needed to protect water quality and public health related to wastewater (SWRCB 2010).*

A lead agency may determine that an alternative is infeasible because of a conflict with relevant policies or regulatory limitations. Recent caselaw examples include the following:

- *Bay Area Citizens v Association of Bay Area Gov'ts* (2016) 248 CA4th 966, 1018 (alternative proposed in comments would not comply with statutory requirements for regional greenhouse gas reduction plan)
- *Center for Biological Diversity v Department of Fish & Wildlife* (2015) 234 CA4th 214, 255 (alternative of discontinuing hatchery production and fish stocking activities was infeasible due to conflict with Department's statutory mandate)
- *City of Maywood v Los Angeles Unified Sch. Dist.* (2012) 208 CA4th 362, 417 (school district reasonably determined that reduced school size alternative was infeasible because of conflict with state school siting guidelines)

Table 5.2-1. Local Alternatives and Reasons for Elimination from Consideration.

Local Alternative	Reasons for Infeasibility
Local Alternative 1: Local WWTP with Effluent Storage and Land Application	• Does not comply with State and Regional Water Board policies supporting regionalization of wastewater services. Likely to receive less favorable consideration, or outright denial, especially if regionalization has similar or better overall feasibility. (Regional Board 2020) • Land application would require extensive permitting from the Regional Board. • Due to the topography, geology and hydrology of the Paradise area, finding a suitable site for both treatment and disposal would be difficult. Acreage requirements for land application given local rocky soil conditions would be high and likely unavailable. • Finding 150 acres of land to purchase for effluent storage was found to be infeasible due to the high risk of increased impacts to biological resources, cultural resources, and tribal resources. (HDR 2020) • Would take approximately 150 acres of land out of agricultural use including possible prime farmland and properties under Williamson Act contracts. • Negotiating agreements with farmers to use treated effluent or irrigation of pastureland would be complex and finding willing participants might be difficult. • Available land for effluent storage and land application would likely have environmentally sensitive plants and resources that would be destroyed or heavily impacted beyond mitigation by installation of the effluent storage and land application facilities: vernal pools, meadowfoam, and other rare plants. • Extensive truck traffic would be involved with hauling soil off-site during construction of the effluent storage reservoir and would impact local access and circulation. • Construction of a local WWTP would be a lengthy process and would involve significant noise, dust, and visual impacts on neighbors in the area. Permanent visual, noise and odor impacts would also occur during operations. • If facility is designed for a maximum predicted rate, even though flows will ramp up gradually, and may never reach the maximum rate, this would result in a WWTP that is oversized, at least for much of its useful life. Building a larger WWTP and initially operating at reduced capacity is technically challenging, wasteful of energy, and unnecessarily costly. • Operation and maintenance for a full scale WWTP would have to be supported by small initial ratepayer base. • High long-term monitoring costs and resources required to oversee adjacent farm uses for compliance with permit conditions associated with this alternative. • Alternatively, if a smaller facility is initially constructed, expansion of the WWTP to

Local Alternative	Reasons for Infeasibility
	accommodate larger future flows would be costly. Further, treatment processes may not be easily scalable without substantial redesign and reconstruction of WWTP elements. • Extensive, ongoing monitoring required for both the local WWTP and the land application system, including monitoring wells, farmers' proper handling of runoff, and the potential for continued impacts on groundwater.
Local Alternative 2: Local WWTP with Surface Water Discharge	• May not comply with State and Regional Water Board policies supporting regionalization of wastewater services. Likely to receive less favorable consideration, or outright denial, • especially if regionalization has similar or better overall feasibility. (Regional Board 2020) • Siting a local wastewater facility within residential and business areas is more complex than other local alternatives. • The lack of year-round water flow in local streams makes a surface water discharge very difficult to permit. If permitted, there is a high potential for a very onerous discharge permit, including extensive, on-going monitoring requirements. • Initiating a new surface water discharge is contrary to the goal of the National Pollutant Discharge Elimination System program and may not be supported by the Regional Water Board (Regional Board 2020). • Construction of a local WWTP would be a lengthy process and would involve significant noise, dust, and visual impacts on neighbors in the area. Permanent visual, noise and odor impacts would also occur during operations. • If facility is designed for a maximum predicted rate, even though flows will ramp up gradually, and may never reach the maximum rate, this would result in a WWTP that is oversized, at least for much of its useful life. Building a larger WWTP and initially operating at reduced capacity is technically challenging, wasteful of energy, and unnecessarily costly. • Operation and maintenance for a full scale WWTP would have to be supported by small initial ratepayer base. • Alternatively, if a smaller facility is initially constructed, expansion of the WWTP to accommodate larger, future flows would be costly. Further, treatment processes may not be easily scalable without substantial redesign and reconstruction of WWTP elements.
Local Alternative 3: Local WWTP with Water Recycling within the Town for Local Reuse and Wildfire Defense	• May not comply with State and Regional Water Board policies supporting regionalization of wastewater services. Likely to receive less favorable consideration, or outright denial, • especially if regionalization has similar or better overall feasibility. (Regional Board 2020) • Siting a local wastewater facility within residential and business areas is more complex than other alternatives • Lack of sufficient potential recycled water users in the area to match the quantity of wastewater produced. • A large effluent storage facility likely needed for winter flows, similar to Local Alternative 1. Finding 150 acres of land to purchase for effluent storage was found to be infeasible. This alternative would also take approximately 150 acres of land out of agricultural use. • Available land for effluent storage would likely have environmentally sensitive plants and resources that would be destroyed or heavily impacted beyond mitigation by installation of the effluent storage facilities: vernal pools, meadowfoam, and other rare plants (HDR 2020) • Construction of a local WWTP would be a lengthy process and would involve

Local Alternative	Reasons for Infeasibility
	significant noise, dust, and visual impacts on neighbors in the area. Permanent visual, noise and odor impacts would also occur during operations. • The addition of an auxiliary water supply system for fire suppression would be a separate pipeline system that would have to be constructed within the Town and would greatly increase construction and operations costs that would be supported by small initial ratepayer base. • If facility is designed for a maximum predicted rate, even though flows will ramp up gradually, and may never reach the maximum rate, this would result in a WWTP that is oversized, at least for much of its useful life. Building a larger WWTP and initially operating at reduced capacity is technically challenging, wasteful of energy, and unnecessarily costly. • Operation and maintenance for a full scale WWTP would have to be supported by small initial ratepayer base. • Alternatively, if a smaller facility is initially constructed, expansion of the WWTP to accommodate larger, future flows would be costly. Further, treatment processes may not be easily scalable without substantial redesign and reconstruction of WWTP elements. • Extensive, ongoing monitoring required for the local WWTP and recycling facilities.
Local Alternative 4: Local WWTP with discharge to the Miocene Canal	• May not comply with State and Regional Water Board policies supporting regionalization of wastewater services. Likely to receive less favorable consideration, or outright denial, • especially if regionalization has similar or better overall feasibility. (Regional Board 2020) • Siting a local wastewater facility within residential and business areas is more complex than other alternatives. • Current agriculture users along the Miocene Canal may not want treated effluent to be mixed with Lake Oroville water supplied to the canal. • Because of the potential for direct use of treated wastewater by users along the Miocene Canal, there would likely be additional treatment processes required, resulting in more land required for treatment facilities and a more complex plant to operate. • Very stringent discharge requirements in a permit issued by the Regional Board, including extensive, on-going monitoring requirements. • The requirement to have several state agencies approve the discharge of advanced treated wastewater with downstream municipal drinking water uses would be more complex than other alternatives. • Pentz Road, where the pipeline to the local WWTP would be built, is narrow and construction truck traffic would impact local residents and businesses. • Construction of a local WWTP would be a lengthy process and would involve significant noise, dust, and visual impacts on neighbors in the area. Permanent visual, noise and odor impacts would also occur during operations. • Potential for impacts on habitat along the Miocene Canal, or in Kunkle Reservoir if discharge were to occur there. • Little or no storage would be available in the event of a WWTP upset and no alternative discharge location would be available. • If facility is designed for a maximum predicted rate, even though flows will ramp up gradually, and may never reach the maximum rate, this would result in a WWTP that is oversized, at least for much of its useful life. Building a larger WWTP and initially operating at reduced capacity is technically challenging, wasteful of energy, and unnecessarily costly. • Operation and maintenance for a full scale WWTP would have to be supported by

Local Alternative	Reasons for Infeasibility
	small initial ratepayer base. • Alternatively, if a smaller facility is initially constructed, expansion of the WWTP to accommodate larger, future flows would be costly. Further, treatment processes may not be easily scalable without substantial redesign and reconstruction of WWTP elements.

Source: HDR 2020

5.2.2 Neal Road Export Pipeline System Alignment Alternative

The Neal Road Alternative would place the pipeline along Neal Road rather than Skyway. This alternative would start at the intersection of Skyway and Neal Road and continue southwest along Neal Road. The Neal Road Alternative would follow Neal Road as it turns west and make a perpendicular trenchless crossing at SR 99. It would continue along Neal Road until it reaches the Oroville-Chico Highway, where it would turn northwest. The Neal Road Alternative would continue along the northern edge of the Oroville-Chico Highway and makes a trenchless crossing of Butte Creek. This alternative would then turn north on Midway and continue along Midway until it reaches Hegan Lane. At Hegan Lane, the Neal Road Alternative would turn southwest and continue along the same route as the Proposed Project to the Chico WPCP.

This alternative was eliminated based on criterion 2 (infeasibility) and criterion 3 (inability to avoid significant environmental impacts), as described in further detail below.

- The Neal Road ROW is narrow in several locations and constructability would be difficult. Because Neal Road is very narrow, homes are located very close to the road and there is little available ROW (**criterion 2**).
- The Neal Road alignment would be longer and more expensive. Specifically, the cost estimate for the Neal Road Alternative would be substantially more expensive than the Proposed Project during construction because the length of the open cut construction for the Neal Road Route is 22 percent longer. The Neal Road Alternative would also require an additional 19,000 feet of force main, which would incur additional pumping head loss and therefore would incur higher power costs during operations and maintenance (**criterion 2**).
- Both the Proposed Project and the Neal Road Alternative would have similar constraints associated with biological resources, seasonal wetlands vernal pools, and sensitive and protected species documented in each location Moreover, each route would require the same types of permitting and regulatory consultation for these resources in Phase 2 of this planning process (**criterion 3**).
- Near SR 99 both the Neal Road Alternative and the Proposed Project would cross an agricultural ditch and Butte Creek. Because the pipeline installation across these water bodies would be done using trenchless methods, impacts on the water quality at these water bodies would be similar and would be an issue only if those activities resulted in a frac-out (**criterion 3**).

Although this alternative alignment would meet the Proposed Project objectives, it would not reduce the potential for significant effects on biological resources, and, since the alignment would be 22-percent longer, the construction period would be extended and would exacerbate impacts on other resources,

such as air quality and greenhouse gases. Only those locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR (CEQA Guidelines Section 15126.6 [b]). Therefore, the Neal Road alternative was eliminated from consideration based on criterion 2 and criterion 3, as described above.

5.2.3 Butte Creek Alignment Spur within the Skyway Export Pipeline Alignment Alternative

The Butte Creek Alternative would follow much of the proposed Skyway alignment; however, it would provide an alternate route between Skyway and Midway, crossing Butte Creek and SR 99 south of the proposed export pipeline alignment. The Butte Creek Alternative would turn southwest from Skyway and cross the Virgin Valley Unit of the Butte Creek Canyon Ecological Reserve before crossing Butte Creek and SR 99 with trenchless HDD. The pipeline would continue west along Marybill Ranch Road and would then turn north on Midway and rejoin the proposed export pipeline alignment along Midway to Hegan Lane.

This alternative was eliminated based on criterion 2 (infeasibility) and criterion 3 (inability to avoid significant environmental impacts) because it would require extensive open-cut trenching across the ecological reserve, which is both considered infeasible and highly impactful to a sensitive and protected area of habitat. Further, similar to the Neal Road alignment alternative, this alignment would also be longer and more expensive. Therefore, the Butte Creek alignment spur alternative was eliminated from consideration based on criteria 2 and 3, as described in Section 5.2.1.

5.3 Alternatives Evaluated in the EIR

This section describes the alternatives to the Proposed Project that were selected and analyzed according to CEQA Guidelines Section 15126.6(a) as part of this PEIR. The analyzed alternatives, including the No Project Alternative, represent a reasonable range of alternatives to the Proposed Project that would feasibly attain most of the Proposed Project's basic objectives, and that would avoid or lessen the significant adverse environmental effects of the Proposed Project. The Proposed Project's objectives are discussed in detail in Chapter 2 and listed in 5.1.2 Project Objectives and Goals. Significant Proposed Project impacts are summarized in Section 4.3 and are described in detail under the corresponding resource in Chapter 3 Environmental Impact Analysis.

The following four alternatives were selected for comparative analysis in this PEIR:

- **No Project Alternative:** The No Project Alternative is required by CEQA and consists of the circumstances under which the Proposed Project does not proceed.
- **Entler Avenue Hybrid Alternative**: Proposed Project with alternative pipeline alignment for crossing SR 99.
- **Crouch Avenue Alternative:** Proposed Project with alternative pipeline alignment for crossing Little Chico Creek.
- **Entler Avenue Hybrid and Crouch Avenue Alternative**: Proposed Project with alternative pipeline alignment for crossing SR 99 and alternative pipeline alignment for crossing Little Chico Creek.

Each alternative is described below. Consistent with the Proposed Project, the transition to the Core Collection System for the Entler Avenue Hybrid Alternative, Crouch Avenue Alternative, and the Entler Avenue Hybrid and Crouch Avenue Alternative for existing structures would be at a property owner's discretion, although the City is pursuing grants to incentivize sewer connection within the Core Collection System area; new construction would be required to connect to the system. Remediation and disposition of existing on-site septic tanks and leach fields would be the responsibility of the individual parcel owner, and these actions are not considered in this PEIR as part of the Proposed Project or alternatives, but a parcel's septic system would need to be remediated (abandoned or removed) as a condition of connecting to the Proposed Project and alternatives. The following discusses whether the alternative would avoid or lessen identified Project impacts, whether new significant impacts may occur, and the ability of the alternative to meet Proposed Project objectives.

5.3.1 No Project Alternative

The No Project alternative represents conditions in the study area in the absence of approval of the proposed project (CEQA Guidelines Section 15126.6(e)(1)). The No Project Alternative must discuss current conditions as well as reasonably foreseeable future conditions expected to occur if the project were not approved (CEQA Guidelines Section 15126.6(e)(2)). However, the analysis of the No Project alternative should not be confused with comparison of the proposed project to Existing Conditions (the baseline for determining the project's environmental impacts) (CEQA Guidelines Section 15126.6(e)(1)). The purpose of describing and analyzing a No Project alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project. The analysis of the No Project alternative, as with the analysis of other alternatives, is usually a comparative or qualitative assessment (CEQA Guidelines Section 15126.6(d)(e))

Under the No Project Alternative, the Town would not construct a Core Collection System, an Export Pipeline System, or an Extended Collection System. The Town would continue to rely on private, individual septic systems for wastewater management. The Town's objectives and goals for the Proposed Project would not be met and the risk of water contamination; public health risks; burdens of on-site wastewater management for business; and restrictions on essential community services, multi-family, and affordable housing would continue. In addition, regrowth in the community would continue to be limited by a requirement for separate septic systems. Multi-family housing construction in the core area would be restricted in size and numbers and would likely provide no additional multi-family housing for the community. Business growth would be limited to septic systems consistent with individual lot sizes, limiting growth for larger businesses and those that have higher capacity needs for sewage management (e.g., restaurants).

5.3.2 Entler Avenue Hybrid Alternative

The Entler Avenue Hybrid Alternative would include the same Core Collection System within the Town and the same Export Pipeline System along Skyway but would provide an alternative route between Skyway and Entler Avenue (see Figure 5.3-1). This alternative would cross Butte Creek with trenchless HDD at the same location as the Proposed Project but would cross SR 99 north of the Proposed Project alignment, bisecting the California Highway Patrol property and another private parcel. Similar to the Proposed Project, the Entler Avenue Hybrid Alternative would cross SR 99 with a trenchless

crossing aligned with Norfield Avenue. The pipeline would then rejoin the Proposed Project alignment along Entler Avenue. According to the Butte County General Plan Land Use Designations Map, land uses near the Entler Avenue Hybrid Alternative include Very Low Density Residential, Public and Industrial (Butte County 2012). The total length of this alternative is approximately 2,622 feet. All other components of the Proposed Project would remain the same as defined in Chapter 2, Project Description. Short- and possibly long-term easements would be required from California Highway Patrol and an adjacent property owner.

The Entler Avenue Hybrid Alternative offers an alternative alignment to a portion of the Export Pipeline System crossing SR 99. This alternative is feasible, meets the Proposed Project objectives, and could result in similar or fewer environmental impacts as compared to the Proposed Project; therefore, this alternative was carried forward for detailed environmental review in this PEIR.

5.3.3 Crouch Avenue Alternative

The Crouch Avenue Alternative would include the same Core Collection System within the Town and the same Export Pipeline System along Skyway but would provide an alternative route for the pipeline to cross Little Chico Creek (see Figure 5.3-2). After the Proposed Project alignment would cross Comanche Creek and turn north along Crouch Avenue, the Crouch Avenue Alternative would continue along Crouch Avenue to Chico River Road, crossing Little Chico Creek along the way. Little Chico Creek would be crossed using trenchless technology via HDD methods. The Crouch Avenue Alternative would then turn west to rejoin the Proposed Project alignment as it travels west along Chico River Road to the Chico WPCP. The area surrounding the Crouch Avenue Alternative is designated as Agriculture (Butte County 2012). The total length of this alternative is approximately 7,353 feet. All other components of the Proposed Project would remain the same as defined in Chapter 2, Project Description. The Crouch Avenue Alternative offers an alternative alignment to a portion of the Export Pipeline System crossing Little Chico Creek. This alternative is feasible, meets the Proposed Project objectives, and could result in similar or fewer environmental impacts as compared to the Proposed Project; therefore, this alternative was carried forward for detailed environmental review in this PEIR.

5.3.4 Entler Avenue Hybrid and Crouch Avenue Alternative

The Entler Avenue Hybrid and Crouch Avenue Alternative would include the same Core Collection System within Paradise and the same Export Pipeline System along Skyway but would provide alternative routes for the pipeline to cross SR 99 and Little Chico Creek. This alternative comprises a combination of the Entler Avenue Hybrid and Crouch Avenue alternatives discussed in the previous two sections.

Consistent with the Entler Avenue Hybrid alternative, this alternative would cross Butte Creek with trenchless HDD at the same location as the Proposed Project but would cross SR 99 north of the Proposed Project alignment, bisecting the California Highway Patrol property and another private parcel. Similar to the Proposed Project, the Entler Avenue Hybrid Alternative would cross SR 99 with a trenchless crossing aligned with Norfield Avenue. The pipeline would then rejoin the Proposed Project alignment along Entler Avenue. Consistent with the Crouch Avenue alternative, this alternative would

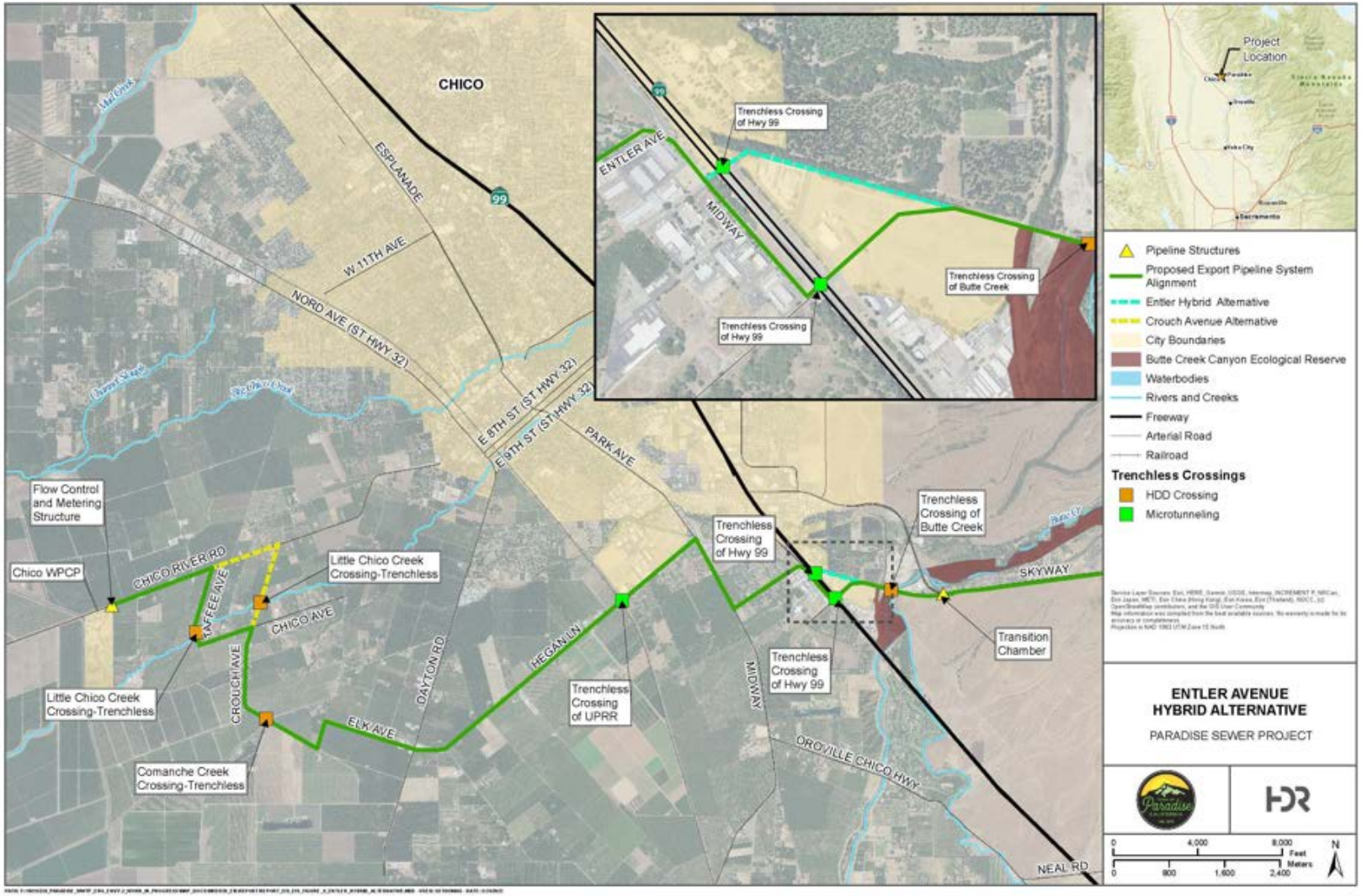

Figure 5.3-1. Entler Avenue Hybrid Alternative

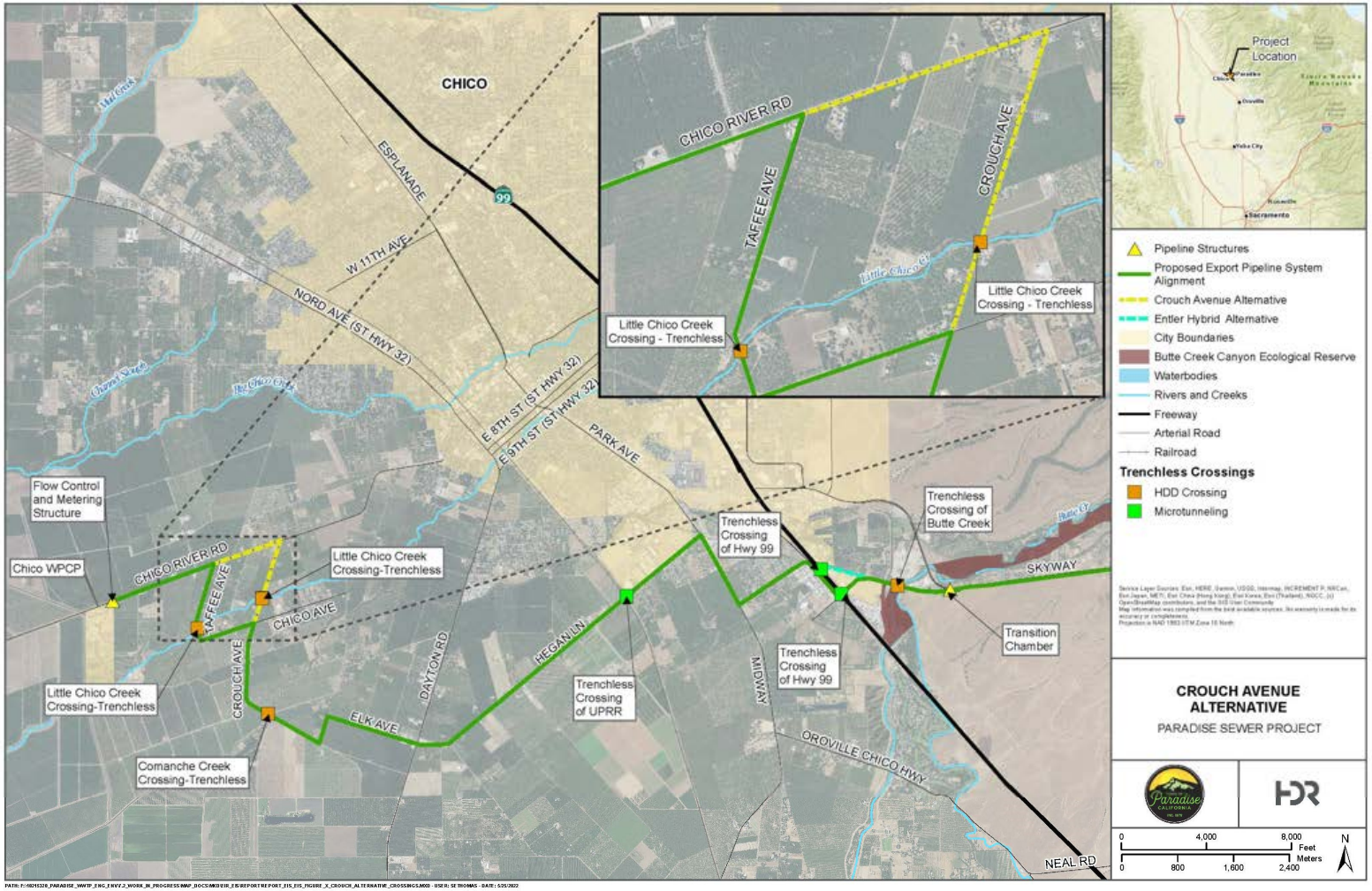

Figure 5.3-2. Crouch Avenue Alternative

leave the Proposed Project alignment at Chico Avenue to continue along Crouch Avenue, crossing Little Chico Creek using trenchless technology along the way. This alternative would then turn west to rejoin the Proposed Project alignment as it travels west along Chico River Road to the Chico WPCP. According to the Butte County General Plan Land Use Designations Map, land uses near the Entler Avenue Hybrid Alternative include Very Low Density Residential, Public and Industrial, and Agriculture (Butte County 2012). The total length of this alternative is approximately 9,975 feet. All other components of the Proposed Project would remain the same as defined in Chapter 2 Project Description.

The Entler Avenue Hybrid and Crouch Avenue Alternative offers an alternative alignment to portions of the Export Pipeline System crossing SR 99 and Little Chico Creek. This alternative is feasible, meets the project objectives, and could result in similar or fewer environmental impacts as compared to the Proposed Project; therefore, this alternative has been carried forward for detailed environmental review in this PEIR.

5.4 Methodology and Organization for Evaluating Alternatives

This section discusses the methods used for evaluating impacts from implementation of the alternatives during construction, operation, and maintenance. This section also describes how the alternatives impact analysis is organized.

5.4.1 Method for Evaluating Alternatives

Each of the alternatives was evaluated using the same Project area and methodology as described in Chapter 3, Environmental Impact Analysis, for the Proposed Project. The alternatives analysis evaluates each alternative's impacts on the various resources during construction, operation, and maintenance activities. A resource-specific study area is defined for each respective resource topic in Chapter 3 and carried forward in this alternatives analysis. Methods and data sources that analysts used to identify impacts on each resource are also consistent with those discussed in Chapter 3. Accordingly, the methods for analysis vary by resource, and rely on both qualitative and quantitative techniques. For some resource topics, fieldwork was conducted to collect data to support the impact analysis. Thresholds of significance for each resource in the alternatives analysis were also developed consistent with CEQA Guidelines Appendix G to determine the significance of potential impacts. Where feasible, mitigation measures are proposed to minimize significant adverse impacts from the alternatives.

5.4.2 Organization for Alternatives Impact Analysis

This section is organized first by resource, then by alternative: No Project Alternative, Entler Avenue Hybrid Alternative, Crouch Avenue Alternative, and the Entler Avenue Hybrid and Crouch Avenue Alternative. Under each alternative, each resource topic area follows the same order as the Proposed Project analysis in Chapter 3, Environmental Impact Analysis. As applicable, construction impacts were considered and are discussed based on the three Project components: (1) construction of the Core Collection System; (2) construction of the Export Pipeline System; and (3) construction of the Extended Collection System. When impacts are found to be significant, mitigation measures are proposed, and

post-mitigation significance conclusions are provided. Impacts and mitigation measures follow the same naming and numbering structure as in Chapter 3.

5.5 Alternatives Impact Analysis

5.5.1 Agriculture

5.5.1.1 No Project Alternative

Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use (No Impact)

Under the No Project Alternative, existing conditions would remain the same and no ground disturbance would occur. Therefore, the No Project Alternative would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use.

Mitigation. No mitigation required.

Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract (No Impact)

Under the No Project Alternative, existing conditions would remain the same. Therefore, the No Project Alternative would not conflict with existing zoning for agricultural use or a Williamson Act contract, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would conflict with agricultural zonings or a Williamson Act contract.

Mitigation. No mitigation required.

Impact AG-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) (No Impact)

Under the No Project Alternative, existing conditions would remain the same. Therefore, the No Project Alternative would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would conflict with such zonings.

Mitigation. No mitigation required.

Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use (No Impact)

Under the No Project Alternative, existing conditions would remain the same and no ground disturbance would occur. Therefore, the No Project Alternative would not result in the loss of forest land or conversion of forest land to non-forest use, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would impact forest land.

Mitigation. No mitigation required.

Impact AG-5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use (No Impact)

Under the No Project Alternative, existing conditions would remain the same and no ground disturbance would occur. Therefore, the No Project Alternative would not result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use, resulting in no impact.

The level of impact would be less than that for the Proposed Project because the Proposed Project would result in a less-than-significant impact on this criterion.

Mitigation. No mitigation required.

5.5.1.2 Entler Avenue Hybrid Alternative

Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use (No Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would be located primarily within the Butte County ROW. When the Entler Avenue Hybrid Alternative leaves UPRR's ROW, it would traverse private parcels before rejoining the public ROW at the Entler Avenue and Norfield Avenue intersection. The Entler Avenue Hybrid Alternative would traverse parcels designated as Urban and Built-Up Land (DOC 2021b). The remaining Entler Avenue Hybrid Alternative alignment would be located in the Butte County public ROW. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use and no impact would occur on this criterion.

Mitigation. No mitigation required.

Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract (No Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would be located primarily within the Butte County public ROW. When the Entler Avenue Hybrid Alternative leaves UPRR's ROW, it would traverse private parcels before rejoining the public ROW at the Entler Avenue and Norfield Avenue intersection. The Entler Avenue Hybrid Alternative would traverse parcels with a City of Chico zoning of CR – Regional Commercial (City of Chico 2020b). The Entler Avenue Hybrid Alternative would traverse parcels that are not enrolled in the Williamson Act (Butte County 2021b). The remaining Entler Avenue Hybrid Alternative alignment would be located within the Butte County public ROW. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would not conflict with existing zoning for agricultural use, or a Williamson Act contract, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would conflict with existing zoning for agricultural use, or a Williamson Act contract and no impact would occur on this criterion.

Mitigation. No mitigation required.

Impact AG-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) (No Impact)

No lands zoned forest land, timberland, or timberland zoned Timberland Production occur within the Entler Avenue Hybrid Alternative area. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would not conflict with existing zoning for forest land, timberland, or timberland zoned Timberland Production, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would conflict with existing zoning for forest land, timberland, or timberland zoned Timberland Production and no impact would occur on this criterion.

Mitigation. No mitigation required.

Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use (No Impact)

A review of aerial imagery and street view indicates no forest or timber resources occur within the Entler Avenue Hybrid Alternative area (Google Earth 2022). Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would not result in the loss of forest land nor conversion of forest land to non-forest use, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would result in loss or conversion of forest land and no impact would occur on this criterion.

Mitigation. No mitigation required.

Impact AG-5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use (Less than Significant Impact)

As noted under Impact AG-4, no forest resources occur within the Entler Avenue Hybrid Alternative area. While the Entler Avenue Hybrid Alternative would be located primarily within the Butte County public ROW, it would be adjacent to farmlands (Google Earth 2022). Construction activities associated with this alternative have the potential to result in temporary, indirect effects involving dust and stormwater runoff at adjacent farmlands. The Entler Avenue Hybrid Alternative will be required to implement best practices during construction to minimize dust emissions and reduce stormwater runoff. The temporary effects at adjacent farmlands would cease once construction is complete. Therefore, impacts on farmlands during construction of the Entler Avenue Hybrid Alternative would be less than significant. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads). Operation and maintenance activities, as described in Section 2.8, would not generate excessive dust or substantially increase stormwater runoff in the vicinity of farmlands due to the infrequency of these activities. Therefore, no impacts on farmlands would occur.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in less than significant impacts on this criterion.

Mitigation. No mitigation required.

5.5.1.3 Crouch Avenue Alternative

Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use (No Impact)

The Crouch Avenue Alternative would be located entirely within the Butte County public ROW. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use and no impact would occur on this criterion.

Mitigation. No mitigation required.

Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract (No Impact)

The Crouch Avenue Alternative would be located entirely within the Butte County public ROW. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would not conflict with existing zoning for agricultural use, or a Williamson Act contract, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would conflict with existing zoning for agricultural use, or a Williamson Act contract and no impact would occur on this criterion.

Mitigation. No mitigation required.

Impact AG-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) (No Impact)

There are no lands zoned forest land, timberland, or timberland zoned Timberland Production within the Crouch Avenue Alternative area. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would not conflict with existing zoning for forest land, timberland, or timberland zoned Timberland Production, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would conflict with existing zoning for forest land, timberland, or timberland zoned Timberland Production and no impact would occur on this criterion.

Mitigation. No mitigation required.

Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use (No Impact)

A review of aerial imagery and street view indicates that there are no forest or timber resources within the Crouch Avenue Alternative area (Google Earth 2022). Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would not result in the loss of forest land or conversion of forest land to non-forest use, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would result in loss or conversion of forest land and no impact would occur on this criterion.

Mitigation. No mitigation required.

Impact AG-5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use (Less than Significant Impact)

As noted under Impact AG-4, there are no forest resources within the Crouch Avenue Alternative area. While the Crouch Avenue Alternative would be located entirely within the Butte County public ROW, it would be adjacent to farmlands (Google Earth 2022). Construction activities associated with this alternative have the potential to result in temporary effects involving dust and stormwater runoff at adjacent farmlands. The Crouch Avenue Alternative will be required to implement best practices during construction to control dust emissions and reduce stormwater runoff. The temporary effects at adjacent farmlands would cease once construction is complete. Therefore, impacts on farmlands during construction of the Crouch Avenue Alternative would be less than significant. Operation and maintenance activities, as described in Section 2.8, associated with this alternative would not generate excessive dust or substantially increase stormwater runoff in the vicinity of farmlands due to the infrequency of these activities and no impacts on farmlands would occur.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less than significant impacts on this criterion.

Mitigation. No mitigation required.

5.5.1.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would be located primarily within the Butte County public ROW. When the Entler Avenue Hybrid and Crouch Avenue Alternative leaves UPRR's ROW, it would traverse private parcels before rejoining the public ROW at the Entler Avenue and Norfield Avenue intersection. The Entler Avenue Hybrid and Crouch Avenue Alternative would traverse parcels designated as Urban and Built-Up Land (DOC 2021b). The remaining Entler Avenue Hybrid and Crouch Avenue Alternative alignment would remain within the Butte County public ROW. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project Entler alignment would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use and no impact would occur on this criterion.

Mitigation. No mitigation required.

Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract (No Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would be located primarily within the Butte County public ROW. When the Entler Avenue Hybrid and Crouch Avenue Alternative leaves UPRR's ROW, it would traverse private parcels before rejoining the public ROW at the Entler Avenue and Norfield Avenue intersection. The Entler Avenue Hybrid and Crouch Avenue Alternative would traverse parcels with a City of Chico zoning of CR – Regional Commercial (City of Chico 2020b). The Entler Avenue Hybrid and Crouch Avenue Alternative would traverse parcels that are not enrolled in the Williamson Act (Butte County 2021b). The remaining Entler Avenue Hybrid and Crouch Avenue Alternative alignment would remain within the public ROW. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not conflict with existing zoning for agricultural use, or a Williamson Act contract, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project Entler alignment would conflict with existing zoning for agricultural use, or a Williamson Act contract and no impact would occur on this criterion.

Mitigation. No mitigation required.

Impact AG-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)) (No Impact)

There are no lands zoned forest land, timberland, or timberland zoned Timberland Production within the Entler Avenue Hybrid and Crouch Avenue Alternative area. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not conflict with existing zoning for forest land, timberland, or timberland zoned Timberland Production, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project Entler alignment would conflict with existing zoning for forest land, timberland, or timberland zoned Timberland Production and no impact would occur on this criterion.

Mitigation. No mitigation required.

Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use (No Impact)

A review of aerial imagery and street view indicates that there are no forest or timber resources within the Entler Avenue Hybrid and Crouch Avenue Alternative area (Google Earth 2022). Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative

would not result in the loss of forest land or conversion of forest land to non-forest use, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project Entler alignment would result in loss or conversion of forest land and no impact would occur on this criterion.

Mitigation. No mitigation required.

Impact AG-5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use (Less than Significant Impact)

As noted under Impact AG-4, there are no forest resources within the Entler Avenue Hybrid and Crouch Avenue Alternative area. While the Entler Avenue Hybrid and Crouch Avenue Alternative would be located primarily within the Butte County public ROW, it would be adjacent to farmlands (Google Earth 2022). Construction activities associated with this alternative have the potential to result in temporary, effects involving dust and stormwater runoff at adjacent farmlands. The Entler Avenue Hybrid and Crouch Avenue Alternative will be required to implement best practices during construction to control dust emissions and reduce stormwater runoff. The temporary effects at adjacent farmlands would cease once construction is complete. Therefore, impacts on farmlands during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative would be less than significant. Operation and maintenance activities, as described in Section 2.8, associated with this alternative would not generate excessive dust or substantially increase stormwater runoff in the vicinity of farmlands due to the infrequency of these activities and no impacts on farmlands would occur.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project Entler alignment would result in less than significant impacts on this criterion.

Mitigation. No mitigation required.

5.5.1.5 Alternatives Impact Summary

Table 5.5-1 summarizes the agriculture and forestry resources impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-1. Alternatives Impacts Summary for Agriculture and Forestry Resources

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring	NI	NI (=)	NI (=)	NI (=)	NI (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Program of the California Resources Agency, to non-agricultural use					
Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact AG-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by California Government Code Section 51104(g))	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact AG-5: 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	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.2 Air Quality

5.5.2.1 No Project Alternative

Impact AIR-1: Conflict with or obstruct implementation of an applicable air quality plan (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no population or employment growth would be induced. Therefore, the No Project Alternative would not conflict with or obstruct implementation of the applicable air quality attainment plan, resulting in no impact. The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would conflict with or obstruct implementation of an applicable air quality plan.

Mitigation. No mitigation required.

Impact AIR-2: 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 (No Impact)

Under the No Project Alternative, existing conditions would remain the same. No construction would occur; therefore, no criteria air pollutant emissions would be generated. The No Project Alternative would not 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. Therefore, no impact would occur. The level of impact would be less than that for the Proposed Project because the No Project Alternative would not result in a cumulatively considerable net increase of criteria air pollutants, while the Proposed Project would result in less-than-significant impacts on this criterion.

Mitigation. No mitigation required.

Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations (No Impact)

Under the No Project Alternative, existing conditions would remain the same. No construction would occur; therefore, no TAC emissions would be generated. The No Project Alternative would not expose sensitive receptors to substantial pollutant concentrations. Therefore, no impact would occur. The level of impact would be less than that for the Proposed Project because the No Project Alternative would not expose sensitive receptors to substantial pollutant concentrations, while the Proposed Project would result in less-than-significant impacts on this criterion.

Mitigation. No mitigation required.

Impact AIR-4: Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people (Less than Significant Impact)

Under the No Project Alternative, the wastewater system in Paradise would continue to consist of individual, privately owned septic tanks and leach fields with subsurface disposal systems. Septic systems, by their nature, can emit odors that are unpleasant. However, no documented odor complaints are associated with the Town's existing wastewater treatment system. Therefore, odor impacts under the No Project Alternative would be less than significant. The level of impact would be similar to that for the Proposed Project during construction of the Proposed Project. However, when compared to odor impacts during operation and maintenance of the Proposed Project, impacts from the No Project Alternative would be greater than Proposed Project. This is because the Proposed Project would improve odor through the removal of septic systems.

Mitigation. No mitigation required.

5.5.2.2 Entler Avenue Hybrid Alternative

Impact AIR-1: Conflict with or obstruct implementation of an applicable air quality plan (Less than Significant Impact)

The Entler Avenue Hybrid Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.3, Air Quality. Similar to the Proposed Project, all construction jobs

associated with the Entler Avenue Hybrid Alternative would be temporary and would be primarily filled by the current workforce within Butte County. During construction, the Entler Avenue Hybrid Alternative would not result in employment growth within the county beyond growth projections presented in the 2018 Air Quality Attainment Plan. Operation and maintenance of the Entler Avenue Hybrid Alternative could foster population and economic growth in the study area. However, any population inducement would be a regrowth and repopulation towards pre-fire levels and would be contained within the Town. About 5-10 permanent employees would serve this alternative during operation and maintenance, which may be re-assigned from existing staff within the Town or may be additional new staff. The minimal increase in employment during operation and maintenance of this alternative would be consistent with the growth projections in the 2018 Air Quality Attainment Plan. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would not conflict with or obstruct implementation of the 2018 Air Quality Attainment Plan, resulting in a less than significant impact.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would have a less than significant impact on conflicting with or obstructing implementation of the 2018 Air Quality Attainment Plan.

Mitigation. No mitigation required.

Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would generate criteria air pollutant emissions during construction. The Entler Avenue Hybrid Alternative would generate criteria air pollutant emissions similar to those listed in Table 3.3-3, Unmitigated Construction Criteria Air Pollutant Emissions. This alternative would generate ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions that do not exceed the BCAQMD's thresholds of significance. Similar to the Proposed Project, the Entler Avenue Hybrid Alternative will implement BCAQMD's best practice measures to minimize fugitive dust during construction. Therefore, impacts from criteria air pollutant emissions during construction of the Entler Avenue Hybrid Alternative would be less than significant. Criteria air pollutant emissions during operation and maintenance activities of this alternative would be minimal and immeasurable due to the infrequency of these activities, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would have a less than significant impact on this criterion.

Mitigation. No mitigation required.

Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations (Less than Significant Impact)

The Entler Avenue Hybrid Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.3, Air Quality. The closest sensitive receptors to the Entler Avenue Hybrid Alternative are residential dwelling units along Entler Avenue, located approximately 50 feet

away (Google Earth 2022). During construction, the Entler Avenue Hybrid Alternative would generate TAC emissions from the use of diesel equipment that could affect existing sensitive receptors. However, construction activities would be temporary and short-term. Only portions of this alternative would be disturbed at a given time throughout the construction period, with operation of construction equipment occurring intermittently throughout the course of a day rather than continuously at any one location along Entler Avenue. This would allow for the dispersal of TAC emissions and would avoid continuous construction activity in the portions of the Entler Avenue Hybrid Alternative area closest to existing sensitive receptors. Similar to the Proposed Project, the Entler Avenue Hybrid Alternative will implement BCAQMD best practice measures to reduce diesel particulate matter from construction equipment. Therefore, construction of the Entler Avenue Hybrid Alternative would result in a less-than-significant impact from TAC emissions. TAC emissions during operation and maintenance activities of this alternative would be minimal and immeasurable due to the infrequency of these activities, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because sensitive receptors are located at the same distance (50 feet) from both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment. Therefore, both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative would result in a less-than-significant impact on this criterion.

Mitigation. No mitigation required.

Impact AIR-4: Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people (Less than Significant Impact)

The Entler Avenue Hybrid Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.3, Air Quality. During construction, the Entler Avenue Hybrid Alternative would result in emissions of odors in the form of diesel exhaust from construction equipment and vehicles. However, these odors would be short-term, limited in extent at any given time, and distributed throughout the Entler Avenue Hybrid Alternative area for the duration of construction. Therefore, construction of the Entler Avenue Hybrid Alternative would result in a less-than-significant impact from odor emissions. Similar to the Proposed Project, the Entler Avenue Hybrid Alternative would provide an overall odor benefit by replacing existing septic tanks that emit unpleasant odors. Odor emissions during operation and maintenance activities of this alternative would be minimal and immeasurable due to the infrequency of these activities, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in less than significant impacts on this criterion.

Mitigation. No mitigation required.

5.5.2.3 Crouch Avenue Alternative

Impact AIR-1: Conflict with or obstruct implementation of an applicable air quality plan (Less than Significant Impact)

The Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.3, Air Quality. Similar to the Proposed Project, all construction jobs associated with the Crouch Avenue Alternative would be temporary and would be primarily filled by the current workforce within Butte County. During construction, the Crouch Avenue Alternative would not result in employment growth beyond growth projections presented in the 2018 Air Quality Attainment Plan. Operation and maintenance of the Crouch Avenue Alternative could foster population and economic growth in the study area. However, any population inducement would be a regrowth and repopulation towards pre-fire levels and would be contained within the Town. About 5-10 permanent employees would serve this alternative during operation and maintenance, which may be re-assigned from existing staff within the Town or may be additional new staff. The minimal increase in employment during operation and maintenance of this alternative would be consistent with the growth projections in the 2018 Air Quality Attainment Plan. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would not conflict with or obstruct implementation of the 2018 Air Quality Attainment Plan, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would have a less than significant impact on the implementation of the 2018 Air Quality Attainment Plan.

Mitigation. No mitigation required.

Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would generate criteria air pollutant emissions during construction. The Crouch Avenue Alternative would generate criteria air pollutant emissions similar to those listed in Table 3.3-3, Unmitigated Construction Criteria Air Pollutant Emissions. This alternative would generate ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions that do not exceed the BCAQMD's thresholds of significance. Similar to the Proposed Project, the Crouch Avenue Alternative will implement BCAQMD's best practice measures to minimize fugitive dust during construction. Therefore, impacts from criteria air pollutant emissions during construction of the Crouch Avenue Alternative would be less than significant. Criteria air pollutant emissions during operation and maintenance activities of this alternative would be minimal and immeasurable due to the infrequency of these activities, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would have a less than significant impact on this criterion.

Mitigation. No mitigation required.

Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations (Less than Significant Impact)

The Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.3, Air Quality. The closest sensitive receptors to the Crouch Avenue Alternative are residential dwelling units along Crouch Avenue, located approximately 60 feet away (Google Earth 2022). During construction, the Crouch Avenue Alternative would generate TAC emissions from the use of diesel equipment that could affect existing sensitive receptors. However, construction activities would be temporary and short-term. Only portions of this alternative would be disturbed at a given time throughout the construction period, with operation of construction equipment occurring intermittently throughout the course of a day rather than continuously at any one location along Crouch Avenue. This would allow for the dispersal of TAC emissions by avoiding continuous construction activity in the portions of the Crouch Avenue Alternative area closest to existing sensitive receptors. Similar to the Proposed Project, the Crouch Avenue Alternative will implement BCAQMD best practice measures to reduce diesel particulate matter from construction equipment. Therefore, construction of the Crouch Avenue Alternative would result in less-than-significant impacts from TAC emissions. TAC emissions during operation and maintenance activities of this alternative would be minimal and immeasurable due to the infrequency of these activities, resulting in no impact.

The level of impact would be the same as that for the Proposed Project, except that, sensitive receptors are farther away under the Crouch Avenue Alternative (60 feet) compared to the Proposed Project (50 feet). Therefore, while both would result in a less-than-significant impact on this criterion, impacts under the Crouch Avenue Alternative would be considered slightly less than the Proposed Project Entler Avenue alignment impacts.

Mitigation. No mitigation required.

Impact AIR-4: Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people (Less than Significant Impact)

The Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.3, Air Quality. During construction, the Crouch Avenue Alternative would result in emissions of odors in the form of diesel exhaust from construction equipment and vehicles. However, these odors would be short-term, limited in extent at any given time, and distributed throughout the Crouch Avenue Alternative area for the duration of construction. Therefore, construction of the Crouch Avenue Alternative would result in a less-than-significant impact from odor emissions. Similar to the Proposed Project, the Crouch Avenue Alternative would provide an overall odor benefit by replacing existing septic tanks that emit unpleasant odors. Odor emissions during operation and maintenance activities of this alternative would be minimal and immeasurable due to the infrequency of these activities, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project alignment would result in less than significant impacts on this criterion.

Mitigation. No mitigation required.

5.5.2.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact AIR-1: Conflict with or obstruct implementation of an applicable air quality plan (Less than Significant Impact)

The Entler Avenue Hybrid and Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.3, Air Quality. Similar to the Proposed Project, all construction jobs associated with the Entler Avenue Hybrid and Crouch Avenue Alternative would be temporary and would primarily be filled by the current workforce within Butte County. During construction, the Entler Avenue Hybrid and Crouch Avenue Alternative would not result in employment growth within the county beyond growth projections presented in the 2018 Air Quality Attainment Plan. Operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative could foster population and economic growth in the study area. However, any population inducement would be a regrowth and repopulation towards pre-fire levels and would be contained within the Town. About 5-10 permanent employees would serve this alternative during operation and maintenance, which may be re-assigned from existing staff within the Town or may be additional new staff. The minimal increase in employment during operation and maintenance of this alternative would be consistent with the growth projections in the 2018 Air Quality Attainment Plan. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not conflict with or obstruct implementation of the 2018 Air Quality Attainment Plan, resulting in a less than significant impact.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment have a less than significant impact on obstructing implementation of the 2018 Air Quality Attainment Plan.

Mitigation. No mitigation required.

Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would generate criteria air pollutant emissions during construction. The Entler Avenue Hybrid and Crouch Avenue Alternative would generate criteria air pollutant emissions similar to those listed in Table 3.3-3, Unmitigated Construction Criteria Air Pollutant Emissions. This alternative would generate ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions that do not exceed the BCAQMD's thresholds of significance. Similar to the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative will implement BCAQMD's best practice measures to minimize fugitive dust during construction. Therefore, impacts from criteria air pollutant emissions during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative would be less than significant. Criteria air pollutant emissions during operation and maintenance activities of this alternative would be minimal and immeasurable due to the infrequency of these activities, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would have a less than significant impact on this criterion.

Mitigation. No mitigation required.

Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations (Less than Significant Impact)

The Entler Avenue Hybrid and Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.3, Air Quality. The closest sensitive receptors to the Entler Avenue Hybrid and Crouch Avenue Alternative are residential dwelling units along Entler Avenue, located approximately 50 feet away (Google Earth 2022). During construction, the Entler Avenue Hybrid and Crouch Avenue Alternative would generate TAC emissions from the use of diesel equipment that could affect existing sensitive receptors. However, construction activities would be temporary and short-term. Only portions of this alternative would be disturbed at a given time throughout the construction period, with operation of construction equipment occurring intermittently throughout the course of a day rather than continuously at any one location along Entler Avenue or Crouch Avenue. This would allow for the dispersal of TAC emissions by avoiding continuous construction activity in the portions of the Entler Avenue Hybrid and Crouch Avenue Alternative area closest to existing sensitive receptors. Similar to the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative will implement BCAQMD best practice measures to reduce diesel particulate matter from construction equipment. Therefore, construction of the Entler Avenue Hybrid and Crouch Avenue Alternative would result in a less-than-significant impact from TAC emissions. TAC emissions during operation and maintenance activities of this alternative would be minimal and immeasurable due to the infrequency of these activities, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because sensitive receptors are located at the same distance (50 feet) from both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment. Therefore, both the Proposed Project and the Entler Avenue Hybrid and Crouch Avenue Alternative would result in a less-than-significant impact on this criterion.

Mitigation. No mitigation required.

Impact AIR-4: Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people (Less than Significant Impact)

The Entler Avenue Hybrid and Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.3, Air Quality. During construction, the Entler Avenue Hybrid and Crouch Avenue Alternative would result in emissions of odors in the form of diesel exhaust from construction equipment and vehicles. However, these odors would be short-term, limited in extent at any given time, and distributed throughout the Entler Avenue Hybrid and Crouch Avenue Alternative area for the duration of construction. Therefore, construction of the Entler Avenue Hybrid and Crouch Avenue Alternative would result in a less-than-significant impact from odor emissions. Similar to the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would provide an overall

odor benefit by replacing existing septic tanks that emit unpleasant odors. Odor emissions during operation and maintenance activities of this alternative would be minimal and immeasurable due to the infrequency of these activities, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in less than significant impacts on this criterion.

Mitigation. No mitigation required.

5.5.2.5 Alternatives Impact Summary

Table 5.5-2 summarizes the air quality impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-2. Alternatives Impacts Summary for Air Quality

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact AIR-1: Conflict with or obstruct implementation of an applicable air quality plan	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations	LTS	NI (-)	LTS (=)	LTS (-)	LTS (=)
Impact AIR-4: Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people	LTS	LTS (+)	LTS (=)	LTS (=)	LTS (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.3 Biological Resources

5.5.3.1 No Project Alternative

Impact BIO-1: 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 CDFW or USFWS (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground disturbance would occur. Therefore, the No Project Alternative would not result in substantial adverse effects involving candidate, sensitive, or special-status species, resulting in no impact. The level of

impact would be less than that for the Proposed Project because the impacts from the Proposed Project would be less than significant with mitigation incorporated under this criterion.

Mitigation. No mitigation required.

Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground disturbance would occur. Therefore, the No Project Alternative would not result in substantial adverse effects involving riparian habitat or other sensitive natural communities, resulting in no impact. The level of impact would be less than that for the Proposed Project because the impacts from the Proposed Project would be less than significant with mitigation incorporated under this criterion.

Mitigation. No mitigation required.

Impact BIO-3: Have a substantial adverse effect on state or federally protected wetlands (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground disturbance would occur. Therefore, the No Project Alternative would not result in substantial adverse effects involving state or federally protected wetlands, resulting in no impact. The level of impact would be less than that for the Proposed Project because the impacts from the Proposed Project would be less than significant with mitigation incorporated under this criterion.

Mitigation. No mitigation required.

Impact BIO-4: 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 (No impact)

Under the No Project Alternative, existing conditions would remain the same, and there would be no introduction of any new impermeable barriers to the landscape or waters. Therefore, the No Project Alternative would not result in substantial adverse effects involving the movement of native resident or migratory fish or wildlife species, or migratory wildlife corridors or nursery sites, resulting in no impact. The level of impact would be the same as that for the Proposed Project because there would be no impact on the movement of species, wildlife corridors and nursery sites under the No Project Alternative and the Proposed Project.

Mitigation. No mitigation required.

Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground disturbance would occur. Therefore, the No Project Alternative would not result in substantial adverse effects involving local policies or ordinances protecting biological resources, resulting in no impact. The

level of impact would be the same as that for the Proposed Project because there would be no impact from conflicting with local policies or ordinances protecting biological resources under the No Project Alternative and the Proposed Project.

Mitigation. No mitigation required.

Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground disturbance would occur. Therefore, the No Project Alternative would not result in substantial adverse effects involving the provisions of any Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state conservation plan, resulting in no impact. The level of impact would be the same as that for the Proposed Project because neither the Proposed Project nor the No Project Alternative would result in impacts on a Habitat Conservation Plan or Natural Community Conservation Plan.

Mitigation. No mitigation required.

5.5.3.2 Entler Avenue Hybrid Alternative

Impact BIO-1: 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 CDFW or USFWS (Less than Significant Impact with Mitigation Incorporated)

The Entler Avenue Hybrid Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.4, Biological Resources. The Entler Avenue Hybrid Alternative would cross approximately 0.4 mile of additional valley-foothill riparian habitat between Butte Creek and SR 99 than the Proposed Project. Valley-foothill riparian is suitable habitat for multiple special-status species of plants and wildlife and is often utilized by wildlife as a movement corridor. During the field studies in spring 2021, the valley-foothill riparian habitat between Butte Creek and SR 99 along the Entler Avenue Hybrid Alternative could not be examined closely during due to the lack of public access to this area. However, elderberry shrubs, which are the host plant of the federally threatened valley elderberry longhorn beetle, could be present in the valley-foothill riparian habitat along this alternative. Although suitable habitat for special-status plant and wildlife species would be avoided as much as possible, construction of the Entler Avenue Hybrid Alternative may result in adverse impacts on these species should they be present in areas proposed for disturbance. This is considered a potentially significant impact. The Entler Avenue Hybrid Alternative will implement the same mitigation measures as the Proposed Project (**MM-BIO-1: Minimize Disturbance Footprint**, **MM-BIO-2: Special-status Plant Surveys**, **MM-BIO-3: Special-status Plant Avoidance**, **MM-BIO-4: Biological Monitoring and Worker Environmental Awareness Training**, **MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control**, **MM-BIO-9: Mapping of Elderberry Shrubs and Section 7 Consultation**, **MM-BIO-10: No Net Loss of Elderberry Shrubs**, **MM-BIO-11: Elderberry Transplanting**, **MM-BIO-12: Avoidance Areas**, **MM-BIO-13: Chemical Use**, and **MM-BIO-14:**

Mowing), which would reduce impacts on special-status plants and wildlife species during construction to less than significant. Operation and maintenance of this alternative would not include ground disturbing activities and would result in no impacts on special-status plant and wildlife species.

The level of impact would be the same as that for the Proposed Project, except that the Entler Avenue Hybrid Alternative would cross approximately 0.4 mile of additional valley-foothill riparian habitat, which is a sensitive community, between Butte Creek and SR 99. Therefore, impacts from the Entler Avenue Hybrid Alternative would be considered greater than impacts from the Proposed Project Entler Avenue alignment on this criterion. Both Proposed Project and the Entler Avenue Hybrid Alternative would require mitigation to reduce impacts to a less than significant level.

Mitigation. To minimize potentially significant impacts on special-status plant and wildlife species during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measures **MM-BIO-1** through **MM BIO-5** and **MM-BIO-9** through **MM-BIO-14** will be implemented.

MM-BIO-1: Minimize Disturbance Footprint (see Section 3.4, Biological Resources, for description)

MM-BIO-2: Special-status Plant Surveys (see Section 3.4, Biological Resources, for description)

MM-BIO-3: Special-status Plant Avoidance (see Section 3.4, Biological Resources, for description)

MM-BIO-4: Biological Monitoring and Worker Environmental Awareness Training (see Section 3.4, Biological Resources, for description)

MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control (see Section 3.4, Biological Resources, for description)

MM-BIO-9: Mapping of Elderberry Shrubs and Section 7 Consultation (see Section 3.4, Biological Resources, for description)

MM-BIO-10: No Net Loss of Elderberry Shrubs (see Section 3.4, Biological Resources, for description)

MM-BIO-11: Elderberry Transplanting (see Section 3.4, Biological Resources, for description)

MM-BIO-12: Avoidance Areas (see Section 3.4, Biological Resources, for description)

MM-BIO-13: Chemical Use (see Section 3.4, Biological Resources, for description)

MM-BIO-14: Mowing (see Section 3.4, Biological Resources, for description)

Significance after Mitigation. With the implementation of **MM-BIO-1** through **MM BIO-5** and **MM-BIO-9** through **MM-BIO-14**, impacts on special-status plant and wildlife species during construction would be less than significant.

Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS (Less than Significant Impact with Mitigation Incorporated)

As described under Impact BIO-1, the Entler Avenue Hybrid Alternative would cross approximately 0.4 mile of additional valley-foothill riparian habitat between Butte Creek and SR 99 than the Proposed Project. Valley-foothill riparian habitat is considered a sensitive natural community. No aquatic features are present within the Entler Avenue Hybrid Alternative footprint. Although sensitive natural communities would be avoided as much as possible, construction of the Entler Avenue Hybrid Alternative may result in adverse impacts on sensitive natural communities in the area between Butte Creek and SR 99. This is considered a potentially significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measures as the Proposed Project (**MM-BIO-1: Minimize Disturbance Footprint**, **MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control**, **MM-BIO-7: Sensitive Community Fencing**, and **MM-BIO-8: Dry Work Areas**), which would reduce impacts on sensitive natural communities during construction to less than significant. Operation and maintenance of this alternative would not include ground disturbing activities and would result in no impacts on sensitive natural communities.

The level of impact would be the same as that for the Proposed Project, except that Entler Avenue Hybrid Alternative would cross approximately 0.4 mile of additional valley-foothill riparian habitat, which is a sensitive community, between Butte Creek and SR 99. Therefore, impacts from the Entler Avenue Hybrid Alternative would be considered greater than impacts from the Proposed Project Entler Avenue alignment on this criterion. Both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative would require mitigation to reduce impacts to less than significant level.

Mitigation. To minimize potentially significant impacts on sensitive natural communities during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measures **MM-BIO-1**, **MM-BIO-5**, **MM-BIO-7**, and **MM-BIO-8** will be implemented.

MM-BIO-1: Minimize Disturbance Footprint (see Section 3.4, Biological Resources, for description)

MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control (see Section 3.4, Biological Resources, for description)

MM-BIO-7: Sensitive Community Fencing (see Section 3.4, Biological Resources, for description)

MM-BIO-8: Dry Work Areas (see Section 3.4, Biological Resources, for description)

Significance after Mitigation. With the implementation of **MM-BIO-1**, **MM-BIO-5**, **MM-BIO-7**, and **MM-BIO-8**, impacts on sensitive natural communities during construction would be less than significant.

Impact BIO-3: Have a substantial adverse effect on state or federally protected wetlands (No Impact)

Since the Entler Avenue Hybrid Alternative was not accessible during the field studies in spring 2021, a desktop review was conducted to determine if aquatic features are present within the Entler Avenue Hybrid Alternative. Based on a desktop review of aerial images and other information as described in

Section 3.4.3, Methods of Analysis, no aquatic features are present within the Entler Avenue Hybrid Alternative footprint. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would result in no impacts on state or federally protected wetlands.

The level of impact would be less than that for the Proposed Project because vernal pools were mapped within 250-feet of Skyway for the Proposed Project and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts with mitigation incorporated on federally protected wetlands.

Mitigation. No mitigation required.

Impact BIO-4: 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 (No impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would not interfere with movement of any fish or wildlife species because none of the Entler Avenue Hybrid Alternative components involve the introduction of any new impermeable barriers to the landscape or waters. All new infrastructure associated with the Entler Avenue Hybrid Alternative would be placed below ground. Additionally, none of the Entler Avenue Hybrid Alternative components would impede the use of wildlife nursery sites. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would have no impact on the movement of any native resident or migratory fish or wildlife species, wildlife corridors, or wildlife nursery sites.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would impact the movement of species, wildlife corridors, or wildlife nursery sites.

Mitigation. No mitigation required.

Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (No Impact)

The *Butte County General Plan 2030* (Butte County 2012), *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008), and *Chico 2030 General Plan* (City of Chico 2017) include policies to protect water resources, wetland and riparian areas, fish and wildlife habitat, wildlife movement corridors, vegetation communities, open space for the preservation of natural resources, threatened and endangered species, and aquatic habitats. Additionally, the general plans include specific measures to preserve and protect oak trees and oak woodlands. A review of the policies included in the *Butte County General Plan 2030, Town of Paradise General Plan,* and *Chico 2030 General Plan* resulted in the determination that the Entler Avenue Hybrid Alternative activities are consistent with these policies. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would not conflict with any local policies or ordinances protecting biological resources, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would conflict with local policies or ordinances protecting biological resources.

Mitigation. No mitigation required.

Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (No Impact)

Consistent with the analysis for the Proposed Project, a portion of the Entler Avenue Hybrid Alternative area overlaps with BRCP, which had not been formally adopted as of summer 2021, though it was in the final phase of development. Species analyzed and discussed in this document that are covered species under the BRCP include Hoover's spurge, Butte County meadowfoam, hairy Orcutt grass, Butte County checkerbloom, Greene's tuctoria, Conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, valley elderberry longhorn beetle, Central Valley steelhead, Central Valley spring-run Chinook salmon, giant garter snake, western pond turtle, foothill yellow-legged frog, western spadefoot, tricolored blackbird, burrowing owl, California black rail, Swainson's hawk, and white-tailed kite. Construction, operation, and maintenance of the Entler Avenue Hybrid Alternative may be covered under the Waste and Wastewater Management Facility Permanent Development Projects component of the BRCP. However, these activities do not conflict with the BRCP. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would not conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As a result, no impacts would occur.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Mitigation. No mitigation required.

5.5.3.3 Crouch Avenue Alternative

Impact BIO-1: 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 CDFW or USFWS (Less than Significant Impact with Mitigation Incorporated)

The Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.4, Biological Resources. The Crouch Avenue Alternative would cross valley-foothill riparian habitat along Little Chico Creek. Valley-foothill riparian habitat is suitable habitat for multiple special-status species of plants and wildlife and is often utilized by wildlife as a movement corridor. During the field studies in spring 2021, elderberry shrubs, which are the host plant of the federally threatened valley elderberry longhorn beetle, were found to be present in valley-foothill riparian habitat along the Little Chico Creek at the Crouch Avenue Alternative crossing. Although suitable habitat for special-status plant and wildlife species would be avoided as much as possible, construction of the

Crouch Avenue Alternative may result in adverse impacts on these species should they be present in areas proposed for disturbance. This is considered a potentially significant impact. The Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-BIO-1: Minimize Disturbance Footprint**, **MM-BIO-2: Special-status Plant Surveys**, **MM-BIO-3: Special-status Plant Avoidance**, **MM-BIO-4: Biological Monitoring and Worker Environmental Awareness Training**, **MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control**, **MM-BIO-9: Mapping of Elderberry Shrubs and USFWS Section 7 Consultation**, **MM-BIO-10: No Net Loss of Elderberry Shrubs**, **MM-BIO-11: Elderberry Transplanting**, **MM-BIO-12: Avoidance Areas**, **MM-BIO-13: Chemical Use**, and **MM-BIO-14: Mowing**), which would reduce impacts on special-status plants and wildlife species during construction to less than significant. Operation and maintenance of this alternative would not include ground disturbing activities and would result in no impacts on special-status plant and wildlife species.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less than significant impact with mitigation incorporated on this criterion.

Mitigation. To minimize potentially significant impacts on special-status plant and wildlife species during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-BIO-1** through **MM BIO-5** and **MM-BIO-9** through **MM-BIO-14** will be implemented.

MM-BIO-1: Minimize Disturbance Footprint (see Section 3.4, Biological Resources, for description)

MM-BIO-2: Special-status Plant Surveys (see Section 3.4, Biological Resources, for description)

MM-BIO-3: Special-status Plant Avoidance (see Section 3.4, Biological Resources, for description)

MM-BIO-4: Biological Monitoring and Worker Environmental Awareness Training (see Section 3.4, Biological Resources, for description)

MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control (see Section 3.4, Biological Resources, for description)

MM-BIO-9: Mapping of Elderberry Shrubs and USFWS Section 7 Consultation (see Section 3.4, Biological Resources, for description)

MM-BIO-10: No Net Loss of Elderberry Shrubs (see Section 3.4, Biological Resources, for description)

MM-BIO-11: Elderberry Transplanting (see Section 3.4, Biological Resources, for description)

MM-BIO-12: Avoidance Areas (see Section 3.4, Biological Resources, for description)

MM-BIO-13: Chemical Use (see Section 3.4, Biological Resources, for description)

MM-BIO-14: Mowing (see Section 3.4, Biological Resources, for description)

Significance after Mitigation. With the implementation of **MM-BIO-1** through **MM BIO-5** and **MM-BIO-9** through **MM-BIO-14**, impacts on special-status plant and wildlife species during construction would be less than significant.

Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS (Less than Significant Impact with Mitigation Incorporated)

As discussed under Impact BIO-1, the Crouch Avenue Alternative would cross valley-foothill riparian habitat along Little Chico Creek. Additionally, the Crouch Avenue Alternative area includes aquatic resources, specifically Little Chico Creek. Valley-foothill riparian habitat and aquatic resources are considered sensitive natural communities. Although sensitive natural communities would be avoided as much as possible, construction of the Crouch Avenue Alternative may result in adverse impacts on sensitive natural communities along Little Chico Creek. This is considered a potentially significant impact. The Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-BIO-1: Minimize Disturbance Footprint**, **MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control**, **MM-BIO-6: No Net Loss of Aquatic Resources**, **MM-BIO-7: Sensitive Community Fencing**, and **MM-BIO-8: Dry Work Areas**), which would reduce impacts on sensitive natural communities during construction to less than significant. Operation and maintenance of this alternative would not include ground disturbing activities and would result in no impacts on sensitive natural communities.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less than significant impact with mitigation incorporated on this criterion.

Mitigation. To minimize potentially significant impacts on sensitive natural communities during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-BIO-1** and **MM-BIO-5** through **MM-BIO-8** will be implemented.

MM-BIO-1: Minimize Disturbance Footprint (see Section 3.4, Biological Resources, for description)

MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control (see Section 3.4, Biological Resources, for description)

MM-BIO-6: No Net Loss of Aquatic Resources (see Section 3.4, Biological Resources, for description)

MM-BIO-7: Sensitive Community Fencing (see Section 3.4, Biological Resources, for description)

MM-BIO-8: Dry Work Areas (see Section 3.4, Biological Resources, for description)

Significance after Mitigation. With the implementation of **MM-BIO-1** and **MM-BIO-5** through **MM-BIO-8**, impacts on sensitive natural communities during construction would be less than significant.

Impact BIO-3: Have a substantial adverse effect on state or federally protected wetlands (Less than Significant Impact with Mitigation Incorporated)

Construction of the Crouch Avenue Alternative may result in the temporary and permanent loss of state or federally protected aquatic resources, specifically Little Chico Creek. Potential temporary and permanent impacts that may occur in or near the Crouch Avenue Alternative footprint include the bridge crossing under Little Chico Creek via HDD, staging and materials storage areas, and access roads. To date, only a preliminary assessment of aquatic resources has been conducted for the Crouch Avenue Alternative due to the lack of access to areas away from the public roadway. Prior to initiation of ground disturbing activities, a more complete mapping of aquatic resources in these areas would need to be completed to support a formal jurisdictional delineation during the permitting phase. The Crouch Avenue Alternative would be designed to avoid impacts, where possible, on Little Chico Creek. Although state and federally protected wetlands would be avoided as much as possible, construction of the Crouch Avenue Alternative may result in adverse impacts on these wetlands in association with Little Chico Creek. This is considered a potentially significant impact. The Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-BIO-1: Minimize Disturbance Footprint**, **MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control**, **MM-BIO-6: No Net Loss of Aquatic Resources**, **MM-BIO-7: Sensitive Community Fencing**, **MM-BIO-8: Dry Work Areas**, and **MM-BIO-26: State or Federally Protected Wetlands Mitigation**), which would reduce impacts on state or federally protected wetlands during construction to less than significant. Operation and maintenance of the Crouch Avenue Alternative would not include ground disturbing activities in or adjacent to state or federally protected wetlands.

The level of impact would be the same as that for the Proposed Project, except that vernal pools were mapped within 250-feet of Skyway under the Proposed Project, which would be consistent with the Crouch Avenue Alternative. Therefore, based on available preliminary data, impacts from the Crouch Avenue Alternative would be considered greater than impacts from the Proposed Project Entler Avenue alignment on this criterion.

Mitigation. To minimize potentially significant impacts on state or federally protected wetlands during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-BIO-1**, **MM-BIO-5** through **MM-BIO-8**, and **MM-BIO-26** will be implemented.

MM-BIO-1: Minimize Disturbance Footprint (see Section 3.4, Biological Resources, for description)

MM-BIO-5: Restoration of Temporarily Disturbed Areas (see Section 3.4, Biological Resources, for description)

MM-BIO-6: No Net Loss of Aquatic Resources (see Section 3.4, Biological Resources, for description)

MM-BIO-7: Sensitive Community Fencing (see Section 3.4, Biological Resources, for description)

MM-BIO-8: Dry Work Areas (see Section 3.4, Biological Resources, for description)

MM-BIO-26: State or Federally Protected Wetlands Mitigation (see Section 3.4, Biological Resources, for description)

Significance after Mitigation. With the implementation of **MM-BIO-1**, **MM-BIO-5** through **MM-BIO-8**, and **MM-BIO-26**, impacts on state or federally protected wetlands during construction would be less than significant.

Impact BIO-4: 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 (No Impact)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would not interfere with movement of any fish or wildlife species because none of the Crouch Avenue Alternative components involve the introduction of any new impermeable barriers to the landscape or waters. All new infrastructure associated with the Crouch Avenue Alternative would be placed below ground. Additionally, none of the Crouch Avenue Alternative components would impede the use of wildlife nursery sites. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would have no impact on the movement of any native resident or migratory fish or wildlife species, wildlife corridors, or wildlife nursery sites.

The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would impact the movement of species, wildlife corridors, or wildlife nursery sites.

Mitigation. No mitigation required.

Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (No Impact)

The *Butte County General Plan 2030* (Butte County 2012), *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008), and *Chico 2030 General Plan* (City of Chico 2017) include policies to protect water resources, wetland and riparian areas, fish and wildlife habitat, wildlife movement corridors, vegetation communities, open space for the preservation of natural resources, threatened and endangered species, and aquatic habitats. Additionally, the general plans include specific measures to preserve and protect oak trees and oak woodlands. A review of the policies included in the *Butte County General Plan 2030, Town of Paradise General Plan,* and *Chico 2030 General Plan* resulted in the determination that the Crouch Avenue Alternative activities are consistent with these policies. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would not conflict with any local policies or ordinances protecting biological resources, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would conflict with local policies or ordinances protecting biological resources.

Mitigation. No mitigation required.

Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (No Impact)

Consistent with the analysis for the Proposed Project, a portion of the Crouch Avenue Alternative area overlaps with BRCP, which had not been formally adopted as of summer 2021, though it was in the final phase of development. Species analyzed and discussed in this document that are covered species under the BRCP include Hoover's spurge, Butte County meadowfoam, hairy Orcutt grass, Butte County checkerbloom, Greene's tuctoria, Conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, valley elderberry longhorn beetle, Central Valley steelhead, Central Valley spring-run Chinook salmon, giant garter snake, western pond turtle, foothill yellow-legged frog, western spadefoot, tricolored blackbird, burrowing owl, California black rail, Swainson's hawk, and white-tailed kite. Construction, operation, and maintenance of the Crouch Avenue Alternative may be covered under the Waste and Wastewater Management Facility Permanent Development Projects component of the BRCP. However, these activities do not conflict with the BRCP. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would not conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As a result, no impacts would occur.

The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Mitigation. No mitigation required.

5.5.3.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact BIO-1: 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 CDFW or USFWS (Less than Significant Impact with Mitigation Incorporated)

The Entler Avenue Hybrid and Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.4, Biological Resources. The Entler Avenue Hybrid and Crouch Avenue Alternative would cross approximately 0.4 mile of additional valley-foothill riparian habitat between Butte Creek and SR 99 than the Proposed Project. Additionally, this alternative would cross valley-foothill riparian habitat along Little Chico Creek. Valley-foothill riparian habitat is suitable habitat for multiple special-status species of plants and wildlife and is often utilized by wildlife as a movement corridor. During the field studies in spring 2021, the valley-foothill riparian habitat between Butte Creek and SR 99 along the Entler Avenue Hybrid and Crouch Avenue Alternative could not be examined closely during due to the lack of public access to this area. However, elderberry shrubs, which are the host plant of the federally threatened valley elderberry longhorn beetle, could be present in the valley-foothill riparian habitat along this alternative. During the field studies, elderberry shrubs were found to be present in valley-foothill riparian habitat along the Little Chico Creek at the Entler Avenue Hybrid and Crouch Avenue Alternative crossing. Although suitable habitat for special-status

plant and wildlife species would be avoided as much as possible, construction of the Entler Avenue Hybrid and Crouch Avenue Alternative may result in adverse impacts on these species should they be present in areas proposed for disturbance. This is considered a potentially significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-BIO-1: Minimize Disturbance Footprint**, **MM-BIO-2: Special-status Plant Surveys**, **MM-BIO-3: Special-status Plant Avoidance**, **MM-BIO-4: Biological Monitoring and Worker Environmental Awareness Training**, **MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control**, **MM-BIO-9: Mapping of Elderberry Shrubs and USFWS Section 7 Consultation**, **MM-BIO-10: No Net Loss of Elderberry Shrubs**, **MM-BIO-11: Elderberry Transplanting**, **MM-BIO-12: Avoidance Areas**, **MM-BIO-13: Chemical Use**, and **MM-BIO-14: Mowing**), which would reduce impacts on special-status plants and wildlife species during construction to less than significant. Operation and maintenance of this alternative would not include ground disturbing activities and would result in no impacts on special-status plant and wildlife species.

The level of impact would be the same as that for the Proposed Project, except that the Entler Avenue Hybrid and Crouch Avenue Alternative would cross approximately 0.4 mile of additional valley-foothill riparian habitat, which is a sensitive community, between Butte Creek and SR 99. Therefore, impacts from the Entler Avenue Hybrid and Crouch Avenue Alternative would be considered greater than impacts from the Proposed Project Entler Avenue alignment on this criterion.

Mitigation. To minimize potentially significant impacts on special-status plant and wildlife species during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-BIO-1** through **MM BIO-5** and **MM-BIO-9** through **MM-BIO-14** will be implemented.

MM-BIO-1: Minimize Disturbance Footprint (see Section 3.4, Biological Resources, for description)

MM-BIO-2: Special-status Plant Surveys (see Section 3.4, Biological Resources, for description)

MM-BIO-3: Special-status Plant Avoidance (see Section 3.4, Biological Resources, for description)

MM-BIO-4: Biological Monitoring and Worker Environmental Awareness Training (see Section 3.4, Biological Resources, for description)

MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control (see Section 3.4, Biological Resources, for description)

MM-BIO-9: Mapping of Elderberry Shrubs and USFWS Section 7 Consultation (see Section 3.4, Biological Resources, for description)

MM-BIO-10: No Net Loss of Elderberry Shrubs (see Section 3.4, Biological Resources, for description)

MM-BIO-11: Elderberry Transplanting (see Section 3.4, Biological Resources, for description)

MM-BIO-12: Avoidance Areas (see Section 3.4, Biological Resources, for description)

MM-BIO-13: Chemical Use (see Section 3.4, Biological Resources, for description)

MM-BIO-14: Mowing (see Section 3.4, Biological Resources, for description)

Significance after Mitigation. With the implementation of **MM-BIO-1** through **MM BIO-5** and **MM-BIO-9** through **MM-BIO-14**, impacts on special-status plant and wildlife species during construction would be less than significant.

Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS (Less than Significant Impact with Mitigation Incorporated)

As described under Impact BIO-1, the Entler Avenue Hybrid and Crouch Avenue Alternative would cross approximately 0.4 mile of additional valley-foothill riparian habitat between Butte Creek and SR 99 than the Proposed Project. Additionally, the Entler Avenue Hybrid and Crouch Avenue Alternative area includes aquatic resources, specifically Little Chico Creek. Valley-foothill riparian habitat and aquatic resources are considered sensitive natural communities. Although sensitive natural communities would be avoided as much as possible, construction of the Entler Avenue Hybrid and Crouch Avenue Alternative may result in adverse impacts on sensitive natural communities in the area between Butte Creek and SR 99 and along Little Chico Creek. This is considered a potentially significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-BIO-1: Minimize Disturbance Footprint**, **MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control**, **MM-BIO-6: No Net Loss of Aquatic Resources**, **MM-BIO-7: Sensitive Community Fencing**, and **MM-BIO-8: Dry Work Areas**), which would reduce impacts on sensitive natural communities during construction to less than significant. Operation and maintenance of this alternative would not include ground disturbing activities and would result in no impacts on sensitive natural communities.

The level of impact would be the same as that for the Proposed Project, except that the Entler Avenue Hybrid and Crouch Avenue Alternative would cross approximately 0.4 mile of additional valley-foothill riparian habitat, which is a sensitive community, between Butte Creek and SR 99. Therefore, impacts from the Entler Avenue Hybrid and Crouch Avenue Alternative would be considered greater than impacts from the Proposed Project alignment on this criterion.

Mitigation. To minimize potentially significant impacts on sensitive natural communities during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-BIO-1** and **MM-BIO-5** through **MM-BIO-8** will be implemented.

MM-BIO-1: Minimize Disturbance Footprint (see Section 3.4, Biological Resources, for description)

MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control (see Section 3.4, Biological Resources, for description)

MM-BIO-6: No Net Loss of Aquatic Resources (see Section 3.4, Biological Resources, for description)

MM-BIO-7: Sensitive Community Fencing (see Section 3.4, Biological Resources, for description)

MM-BIO-8: Dry Work Areas (see Section 3.4, Biological Resources, for description)

Significance after Mitigation. With the implementation of **MM-BIO-1** and **MM-BIO-5** through **MM-BIO-8**, impacts on sensitive natural communities during construction would be less than significant.

Impact BIO-3: Have a substantial adverse effect on state or federally protected wetlands (Less than Significant Impact with Mitigation Incorporated)

Construction of the Entler Avenue Hybrid and Crouch Avenue Alternative may result in the temporary and permanent loss of state or federally protected aquatic resources, specifically Little Chico Creek. Potential temporary and permanent impacts that may occur in or near the Entler Avenue Hybrid and Crouch Avenue Alternative footprint include the bridge crossing under Little Chico Creek via HDD, staging and materials storage areas, and access roads. To date, only a preliminary assessment of aquatic resources has been conducted for the Entler Avenue Hybrid and Crouch Avenue Alternative due to the lack of access to areas away from the public roadway. Prior to initiation of ground disturbing activities, a more complete mapping of aquatic resources in these areas would need to be completed to support a formal jurisdictional delineation during the permitting phase. The Entler Avenue Hybrid and Crouch Avenue Alternative would be designed to avoid impacts, where possible, on Little Chico Creek. Although state and federally protected wetlands would be avoided as much as possible, construction of the Entler Avenue Hybrid and Crouch Avenue Alternative may result in adverse impacts on these wetlands in association with Little Chico Creek. This is considered a potentially significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-BIO-1: Minimize Disturbance Footprint**, **MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control**, **MM-BIO-6: No Net Loss of Aquatic Resources**, **MM-BIO-7: Sensitive Community Fencing**, **MM-BIO-8: Dry Work Areas**, and **MM-BIO-26: State or Federally Protected Wetlands Mitigation**), which would reduce impacts on state or federally protected wetlands during construction to less than significant. Operation and maintenance of the Crouch Avenue Alternative would not include ground disturbing activities in or adjacent to state or federally protected wetlands.

The level of impact would be the same as that for the Proposed Project, except that vernal pools were mapped within 250-feet of Skyway under the Proposed Project, which would also be consistent with this alternative. Therefore, based on available preliminary data, impacts from the Entler Avenue Hybrid and Crouch Avenue Alternative would be considered greater than impacts from the Proposed Project alignment on this criterion.

Mitigation. To minimize potentially significant impacts on state or federally protected wetlands during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-BIO-1**, **MM-BIO-5** through **MM-BIO-8**, and **MM-BIO-26** will be implemented.

MM-BIO-1: Minimize Disturbance Footprint (see Section 3.4, Biological Resources, for description)

MM-BIO-5: Restoration of Temporarily Disturbed Areas and Invasive Weed Control (see Section 3.4, Biological Resources, for description)

MM-BIO-6: No Net Loss of Aquatic Resources (see Section 3.4, Biological Resources, for description)

MM-BIO-7: Sensitive Community Fencing (see Section 3.4, Biological Resources, for description)

MM-BIO-8: Dry Work Areas (see Section 3.4, Biological Resources, for description)

MM-BIO-26: State or Federally Protected Wetlands Mitigation (see Section 3.4, Biological Resources, for description)

Significance after Mitigation. With the implementation of **MM-BIO-1**, **MM-BIO-5** through **MM-BIO-8**, and **MM-BIO-26**, impacts on state or federally protected wetlands during construction would be less than significant.

Impact BIO-4: 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 (No Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would not interfere with movement of any fish or wildlife species because none of the Entler Avenue Hybrid and Crouch Avenue Alternative components involve the introduction of any new impermeable barriers to the landscape or waters. All new infrastructure associated with the Entler Avenue Hybrid and Crouch Avenue Alternative would be placed below ground. Additionally, none of the Entler Avenue Hybrid and Crouch Avenue Alternative components would impede the use of wildlife nursery sites. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would have no impact on the movement of any native resident or migratory fish or wildlife species, wildlife corridors, or wildlife nursery sites.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project alignment would impact the movement of species, wildlife corridors, or wildlife nursery sites.

Mitigation. No mitigation required.

Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (No Impact)

The *Butte County General Plan 2030* (Butte County 2012), *Town of Paradise General Plan* (Quad Consultants 2008), and *Chico 2030 General Plan* (City of Chico 2017) include policies to protect water resources, wetland and riparian areas, fish and wildlife habitat, wildlife movement corridors, vegetation communities, open space for the preservation of natural resources, threatened and endangered species, and aquatic habitats. Additionally, the general plans include specific measures to preserve and protect oak trees and oak woodlands. A review of the policies included in the *Butte County General Plan 2030, Town of Paradise General Plan,* and *Chico 2030 General Plan* resulted in the determination that the Entler Avenue Hybrid and Crouch Avenue Alternative activities are consistent with these policies. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch

Avenue Alternative would not conflict with any local policies or ordinances protecting biological resources, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would conflict with local policies or ordinances protecting biological resources.

Mitigation. No mitigation required.

Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (No Impact)

Consistent with the analysis for the Proposed Project, a portion of the Entler Avenue Hybrid and Crouch Avenue Alternative area overlaps with BRCP, which had not been formally adopted as of summer 2021, though it was in the final phase of development. Species analyzed and discussed in this document that are covered species under the BRCP include Hoover's spurge, Butte County meadowfoam, hairy Orcutt grass, Butte County checkerbloom, Greene's tuctoria, Conservancy fairy shrimp, vernal pool fairy shrimp, vernal pool tadpole shrimp, valley elderberry longhorn beetle, Central Valley steelhead, Central Valley spring-run Chinook salmon, giant garter snake, western pond turtle, foothill yellow-legged frog, western spadefoot, tricolored blackbird, burrowing owl, California black rail, Swainson's hawk, and white-tailed kite. Construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative may be covered under the Waste and Wastewater Management Facility Permanent Development Projects component of the BRCP. However, these activities do not conflict with the BRCP. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As a result, no impacts would occur.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project alignment would conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Mitigation. No mitigation required.

5.5.3.5 Alternatives Impact Summary

Table 5.5-3 summarizes the biological resources impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-3. Alternatives Impacts Summary for Biological Resources

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact BIO-1: 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 CDFW or USFWS	S/M	NI (-)	S/M (+)	S/M (=)	S/M (+)
Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS	S/M	NI (-)	S/M (+)	S/M (=)	S/M (+)
Impact BIO-3: Have a substantial adverse effect on state or federally protected wetlands	S/M	NI (-)	NI (-)	S/M (+)	S/M (+)
Impact BIO-4: 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	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	NI	NI (=)	NI (=)	NI (=)	NI (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.4 Cultural Resources

5.5.4.1 No Project Alternative

Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5 (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground-disturbance would occur. Therefore, there would be no impacts on the significance of a historical resource under the No Project Alternative. The level of impact would be less than that for the Proposed

Project because the Proposed Project would have a less-than-significant impact on a historical resource.

Mitigation. No mitigation required.

Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5. (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground-disturbance would occur. Therefore, there would be no impacts on the significance of an archaeological resource under the No Project Alternative. The level of impact would be less than that for the Proposed Project because the Proposed Project would have a less-than-significant impact on archaeological resources with mitigation incorporated.

Mitigation. No mitigation required.

Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries. (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground-disturbance would occur. Therefore, there would be no impacts on any human remains, including those interred outside of formal cemeteries, under the No Project Alternative. The level of impact would be less than that for the Proposed Project because the Proposed Project would have a less-than-significant impact on human remains.

Mitigation. No mitigation required.

5.5.4.2 Entler Avenue Hybrid Alternative

Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5 (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative could impact historical resources during construction. Excavation and ground disturbing activities during construction of the Entler Avenue Hybrid Alternative have the potential to impact previously recorded, newly identified, and previously unknown cultural resources in the study area. As with the Proposed Project, there are no cultural resources located within the Entler Avenue Hybrid Alternative that meet the significance criteria for listing on the CRHR. Therefore, impacts on historical resources from construction of the Entler Avenue Hybrid Alternative would be less than significant. Operation and maintenance of this alternative would not include ground disturbing activities and would result in no impacts on historical resources.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would have a less-than-significant impact on a historical resource.

Mitigation. No mitigation required.

Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5 (Less than Significant Impact with Mitigation Incorporated)

The Entler Avenue Hybrid Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.5, Cultural Resources. Although no “unique” or “historic” cultural resources (as per CEQA definitions) have been documented in the study area, there is a potential that unrecorded cultural resources could be unearthed or otherwise discovered during ground-disturbing and construction activities associated with the Entler Avenue Hybrid Alternative. Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative is located in a region where significant prehistoric and historic-era cultural resources have been documented. Subsurface disturbances during construction of the Entler Avenue Hybrid Alternative could destroy or damage undiscovered prehistoric or historic cultural resources. If these resources were determined to be “unique” or “historic” (as per CEQA definitions), a significant impact would occur. The Entler Avenue Hybrid Alternative would implement the same mitigation measures as the Proposed Project (**MM-CUL-1: Targeted Archaeological Monitoring** and **MM-CUL-2: Follow Inadvertent Discovery Procedures**), which would reduce impacts on archaeological resources during construction to a less than significant level. Operation and maintenance of the Entler Avenue Hybrid Alternative would not include ground disturbing activities and would result in no impacts on archeological resources.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would have a less-than-significant impact on archaeological resources with mitigation incorporated.

Mitigation. To minimize potentially significant impacts related to unrecorded cultural resources (including archeological resources) during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measures **MM-CUL-1** and **MM-CUL-2** will be implemented.

MM-CUL-1: Targeted Archaeological Monitoring (see Section 3.5, Cultural Resources, for description)

MM-CUL-2: Follow Inadvertent Discovery Procedures (see Section 3.5, Cultural Resources, for description)

Significance after Mitigation. With the implementation of **MM-CUL-1** and **MM-CUL-2**, impacts resulting from inadvertent damage or destruction of unknown cultural resources during construction would be less than significant.

Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries (Less than Significant Impact)

The Entler Avenue Hybrid Alternative would not impact any known locations of human remains, including those interred outside of formal cemeteries. Although much of the study area has been previously disturbed by previous development, it is possible that previously unknown buried human remains could be unearthed and damaged or destroyed during grading and excavation activities associated with construction of the Entler Avenue Hybrid Alternative. In the event of an inadvertent discovery of human remains, both the Proposed Project and the Entler Avenue Hybrid Alternative would adhere to the same protocol prescribed by existing laws and regulations required under the

California Health and Safety Code Sections 7050.5 and 7052, PRC Section 5097.98, and CEQA Section 15064.5. By adhering to existing laws and regulations, construction of the Entler Avenue Hybrid Alternative would have a less than significant impact on human remains, including those interred outside of formal cemeteries. Operation and maintenance of this alternative would not include ground disturbing activities and would result in no impacts on human remains.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would have a less-than-significant impact on human remains.

Mitigation. No mitigation required.

5.5.4.3 Crouch Avenue Alternative

Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5 (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative could impact historical resources during construction. Excavation and ground disturbing activities during construction of the Crouch Avenue Alternative have the potential to impact previously recorded, newly identified, and previously unknown cultural resources in the study area. As with the Proposed Project, there are no cultural resources located within the Crouch Avenue Alternative that meet the significance criteria for listing on the CRHR. Therefore, impacts on historical resources from construction of the Crouch Avenue Alternative would be less than significant. Operation and maintenance of this alternative would not include ground disturbing activities and would result in no impacts on historical resources.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would have a less-than-significant impact on a historical resource.

Mitigation. No mitigation required.

Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5 (Less than Significant Impact with Mitigation Incorporated)

The Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.5, Cultural Resources. Although no “unique” or “historic” cultural resources (as per CEQA definitions) have been documented in the study area, there is a potential that unrecorded cultural resources could be unearthed or otherwise discovered during ground-disturbing and construction activities associated with the Crouch Avenue Alternative. Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative is located in a region where significant prehistoric and historic-era cultural resources have been documented. Subsurface disturbances during construction of the Crouch Avenue Alternative could destroy or damage undiscovered prehistoric or historic cultural resources. If these resources were determined to be “unique” or “historic” (as per CEQA definitions), a significant impact would occur. The Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-CUL-1: Targeted Archaeological Monitoring** and **MM-CUL-2: Follow Inadvertent Discovery Procedures**), which would reduce

impacts on archaeological resources during construction to a less than significant level. Operation and maintenance of this alternative would not include ground disturbing activities and would result in no impacts on archeological resources.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would have a less-than-significant impact on archaeological resources with mitigation incorporated.

Mitigation. To minimize potentially significant impacts related to unrecorded cultural resources (including archeological resources) during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-CUL-1** and **MM-CUL-2** will be implemented.

MM-CUL-1: Targeted Archaeological Monitoring (see Section 3.5, Cultural Resources, for description)

MM-CUL-2: Follow Inadvertent Discovery Procedures (see Section 3.5, Cultural Resources, for description)

Significance after Mitigation. With the implementation of **MM-CUL-1** and **MM-CUL-2**, impacts resulting from inadvertent damage or destruction of unknown cultural resources during construction would be less than significant.

Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries (Less than Significant Impact)

The Crouch Avenue Alternative would not impact any known locations of human remains, including those interred outside of formal cemeteries. Although much of the study area has been previously disturbed by previous development, it is possible that previously unknown buried human remains could be unearthed and damaged or destroyed during grading and excavation activities associated with construction of the Crouch Avenue Alternative. In the event of an inadvertent discovery of human remains, both the Proposed Project and the Crouch Avenue Alternative would adhere to the same protocol prescribed by existing laws and regulations required under the California Health and Safety Code Sections 7050.5 and 7052, PRC Section 5097.98, and CEQA Section 15064.5. By adhering to existing laws and regulations, construction of the Crouch Avenue Alternative would have a less than significant impact on human remains, including those interred outside of formal cemeteries. Operation and maintenance of this alternative would not include ground disturbing activities and would result in no impacts on human remains.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would have a less-than-significant impact on human remains.

Mitigation. No mitigation required.

5.5.4.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5 (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative could impact historical resources during construction. Excavation and ground disturbing activities during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative have the potential to impact previously recorded, newly identified, and previously unknown cultural resources in the study area. As with the Proposed Project, there are no cultural resources located within the Entler Avenue Hybrid and Crouch Avenue Alternative that meet the significance criteria for listing on the CRHR. Therefore, impacts on historical resources from construction of the Entler Avenue Hybrid and Crouch Avenue Alternative would be less than significant. Operation and maintenance of this alternative would not include ground disturbing activities and would result in no impacts on historical resources.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would have a less-than-significant impact on a historical resource.

Mitigation. No mitigation required.

Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5 (Less than Significant Impact with Mitigation Incorporated)

The Entler Avenue Hybrid and Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.5, Cultural Resources. Although no “unique” or “historic” cultural resources (as per CEQA definitions) have been documented in the study area, there is a potential that unrecorded cultural resources could be unearthed or otherwise discovered during ground-disturbing and construction activities associated with the Entler Avenue Hybrid and Crouch Avenue Alternative. Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative is located in a region where significant prehistoric and historic-era cultural resources have been documented. Subsurface disturbances during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative could destroy or damage undiscovered prehistoric or historic cultural resources. If these resources were determined to be “unique” or “historic” (as per CEQA definitions), a significant impact would occur. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-CUL-1: Targeted Archaeological Monitoring** and **MM-CUL-2: Follow Inadvertent Discovery Procedures**), which would reduce impacts on archaeological resources during construction to a less than significant level. Operation and maintenance of this alternative would not include ground disturbing activities and would result in no impacts on archeological resources.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would have a less-than-significant impact on archaeological resources with mitigation incorporated.

Mitigation. To minimize potentially significant impacts related to unrecorded cultural resources (including archeological resources) during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-CUL-1** and **MM-CUL-2** will be implemented.

MM-CUL-1: Targeted Archaeological Monitoring (see Section 3.5, Cultural Resources, for description)

MM-CUL-2: Follow Inadvertent Discovery Procedures (see Section 3.5, Cultural Resources, for description)

Significance after Mitigation. With the implementation of **MM-CUL-1** and **MM-CUL-2**, impacts resulting from inadvertent damage or destruction of unknown cultural resources during construction would be less than significant.

Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries (Less than Significant Impact)

The Entler Avenue Hybrid and Crouch Avenue Alternative would not impact any known locations of human remains, including those interred outside of formal cemeteries. Although much of the study area has been previously disturbed by previous development, it is possible that previously unknown buried human remains could be unearthed and damaged or destroyed during grading and excavation activities associated with construction of the Entler Avenue Hybrid and Crouch Avenue Alternative. In the event of an inadvertent discovery of human remains, both the Proposed Project and the Entler Avenue Hybrid and Crouch Avenue Alternative would adhere to the same protocol prescribed by existing laws and regulations required under the California Health and Safety Code Sections 7050.5 and 7052, PRC Section 5097.98, and CEQA Section 15064.5. By adhering to existing laws and regulations, construction of the Entler Avenue Hybrid and Crouch Avenue Alternative would have a less than significant impact on human remains, including those interred outside of formal cemeteries. Operation and maintenance of this alternative would not include ground disturbing activities and would result in no impacts on human remains.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would have a less-than-significant impact on human remains.

Mitigation. No mitigation required.

5.5.4.5 Alternatives Impact Summary

Table 5.5-4 summarizes the cultural resources impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-4. Alternatives Impacts Summary for Cultural Resources

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.5 Energy

5.5.5.1 No Project Alternative

Impact ENG-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project, construction, operation, or maintenance (No Impact)

Under the No Project Alternative, the Town would not make a regional connection to the Chico WPCP and would continue to rely on septic tanks for wastewater management. No new infrastructure would be required, and there would be no increase in energy demand within the study area. Therefore, no impact would occur. The level of impact would be less than that for the Proposed Project because the No Project Alternative would not result in an increase in energy demand, while the Proposed Project would result in less than significant impacts from the increase in energy demand.

Mitigation. No mitigation required.

Impact ENG-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency (No Impact)

Under the No Project Alternative, existing conditions would remain the same. The No Project Alternative would not result in an increase in energy demand. The No Project Alternative would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, no impact would occur. The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Mitigation. No mitigation required.

5.5.5.2 Entler Avenue Hybrid Alternative

Impact ENG-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction, operation, or maintenance (Less than Significant Impact)

The Entler Avenue Hybrid Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.6, Energy. Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would consume energy in the form of transportation fuel (gasoline and diesel) and electricity during construction. Statewide regulations, such as AB 1493 and Advanced Clean Cars Program, are aimed at improving on-road vehicle fuel efficiency, resulting in reduced fuel consumption. Although the In-Use Off-Road Diesel-Fueled Fleets Regulation is aimed at reducing emissions from off-road diesel vehicles, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling. Refer to Section 3.6.2 for a discussion of statewide legislation aimed at reducing transportation fuel demand. Conformance of vehicles and equipment to these statewide regulations is required and would avoid wasteful, inefficient, or unnecessary consumption of transportation fuel during construction. Many construction activities associated with the Entler Avenue Hybrid Alternative would occur concurrently, resulting in an increase in electricity demand in the study area. This increase in electricity consumption would be temporary as it would be limited to the construction duration and small in comparison to the total energy demand in Butte County, which was 1,385 million kWh in 2020. During operation and maintenance, the Entler Avenue Hybrid Alternative would provide a beneficial reduction of impacts on diesel fuel consumption in the area by eliminating the use of diesel-powered septage hauling trucks. Similar to the Proposed Project, pump stations associated with this alternative would consume 601,000 kWh per year of electrical energy. This increase in electricity consumption would represent only 0.04 percent of the total energy demand in Butte County. While this alternative would increase the amount of energy needed to treat wastewater at the Chico WPCP, it would be well within the current capacity and would not result in an inefficient use of energy. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would not result in the wasteful, inefficient, or unnecessary consumption of energy, resulting in a less than significant impact.

The level of impact would be the same as that for the Proposed Project because impacts on energy resources would be less than significant for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative.

Mitigation. No mitigation required.

Impact ENG-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency (No Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would result in an increase in energy demand during its construction, operation, and maintenance. A multitude of state regulations and legislative acts are aimed at improving vehicle fuel efficiency, energy efficiency, and enhancing energy conservation, such as AB 1493, Advanced Clean Cars Program, In-Use Off-Road Diesel-Fueled Fleets Regulation, SB 100, and the 2017 Scoping Plan. This alternative would be required to comply with these adopted regulations. Therefore, construction, operation, and

maintenance of the Entler Avenue Hybrid Alternative would not conflict with a state or local plan for renewable energy or energy efficiency, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would conflict with a state or local plan for renewable energy or energy efficiency.

Mitigation. No mitigation required.

5.5.5.3 Crouch Avenue Alternative

Impact ENG-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction, operation, or maintenance (Less than Significant Impact)

The Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.6, Energy. Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would consume energy in the form of transportation fuel (gasoline and diesel) and electricity during construction. Statewide regulations, such as AB 1493 and Advanced Clean Cars Program, are aimed at improving on-road vehicle fuel efficiency, resulting in reduced fuel consumption. Although the In-Use Off-Road Diesel-Fueled Fleets Regulation is aimed at reducing emissions from off-road diesel vehicles, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling. Refer to Section 3.6.2 for a discussion of statewide legislation aimed at reducing transportation fuel demand. Conformance of vehicles and equipment to these statewide regulations is required and would avoid wasteful, inefficient, or unnecessary consumption of transportation fuel during construction. Many construction activities associated with the Crouch Avenue Alternative would occur concurrently, resulting in an increase in electricity demand in the study area. This increase in electricity consumption would be temporary as it would be limited to the construction duration and small in comparison to the total energy demand in Butte County, which was 1,385 million kWh in 2020. During operation and maintenance, the Crouch Avenue Alternative would provide a beneficial reduction of impacts on diesel fuel consumption in the area by eliminating the use of diesel-powered septage hauling trucks. Similar to the Proposed Project, pump stations associated with this alternative would consume 601,000 kWh per year of electrical energy. This increase in electricity consumption would represent only 0.04 percent of the total energy demand in Butte County. While this alternative would increase the amount of energy needed to treat wastewater at the Chico WPCP, it would be well within the current capacity and would not result in an inefficient use of energy. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would not result in the wasteful, inefficient, or unnecessary consumption of energy, resulting in a less than significant impact.

The level of impact would be the same as that for the Proposed Project because impacts on energy resources would be less than significant for both the Proposed Project Entler alignment and the Crouch Avenue Alternative.

Mitigation. No mitigation required.

Impact ENG-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency (No Impact)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would result in an increase in energy demand during its construction, operation, and maintenance. A multitude of state regulations and legislative acts are aimed at improving vehicle fuel efficiency, energy efficiency, and enhancing energy conservation, such as AB 1493, Advanced Clean Cars Program, In-Use Off-Road Diesel-Fueled Fleets Regulation, SB 100, and the 2017 Scoping Plan. This alternative would be required to comply with these adopted regulations. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would not conflict with a state or local plan for renewable energy or energy efficiency, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would conflict with a state or local plan for renewable energy or energy efficiency.

Mitigation. No mitigation required.

5.5.5.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact ENG-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation (Less than Significant Impact)

The Entler Avenue Hybrid and Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.6, Energy. Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would consume energy in the form of transportation fuel (gasoline and diesel) and electricity during construction. Statewide regulations, such as AB 1493 and Advanced Clean Cars Program, are aimed at improving on-road vehicle fuel efficiency, resulting in reduced fuel consumption. Although the In-Use Off-Road Diesel-Fueled Fleets Regulation is aimed at reducing emissions from off-road diesel vehicles, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling. Refer to Section 3.6.2 for a discussion of statewide legislation aimed at reducing transportation fuel demand. Conformance of vehicles and equipment to these statewide regulations is required and would avoid wasteful, inefficient, or unnecessary consumption of transportation fuel during construction. Many construction activities associated with the Entler Avenue Hybrid and Crouch Avenue Alternative would occur concurrently, resulting in an increase in electricity demand in the study area. This increase in electricity consumption would be temporary as it would be limited to the construction duration and small in comparison to the total energy demand in Butte County, which was 1,385 million kWh in 2020. During operation and maintenance, the Entler Avenue Hybrid and Crouch Avenue Alternative would provide a beneficial reduction of impacts on diesel fuel consumption in the area by eliminating the use of diesel-powered septage hauling trucks. Similar to the Proposed Project, pump stations associated with this alternative would consume 601,000 kWh per year of electrical energy. This increase in electricity consumption would represent only 0.04 percent of the total energy demand in Butte County. While this alternative would increase the amount of energy needed to treat wastewater at the Chico WPCP, it would be well within the current capacity and would not result in an inefficient use of energy.

Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not result in the wasteful, inefficient, or unnecessary consumption of energy, resulting in a less than significant impact.

The level of impact would be the same as that for the Proposed Project because impacts on energy resources would be less than significant for both the Proposed Project alignment and the Entler Avenue Hybrid and Crouch Avenue Alternative.

Mitigation. No mitigation required.

Impact ENG-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency (No Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would result in an increase in energy demand during its construction, operation, and maintenance. A multitude of state regulations and legislative acts are aimed at improving vehicle fuel efficiency, energy efficiency, and enhancing energy conservation, such as AB 1493, Advanced Clean Cars Program, In-Use Off-Road Diesel-Fueled Fleets Regulation, SB 100, and the 2017 Scoping Plan. This alternative would be required to comply with these adopted regulations. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not conflict with a state or local plan for renewable energy or energy efficiency, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project alignment would conflict with a state or local plan for renewable energy or energy efficiency.

Mitigation. No mitigation required.

5.5.5.5 Alternatives Impact Summary

Table 5.5-5 summarizes the energy impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-5. Alternatives Impacts Summary for Energy

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact ENG-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction, operation, or maintenance	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact ENG-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency	NI	NI (=)	NI (=)	NI (=)	NI (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.6 Geology, Soils, and Paleontological Resources

5.5.6.1 No Project Alternative

Impact GEO-1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

(a) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground disturbance would occur. Therefore, the No Project Alternative would not result in substantial adverse effects involving rupture of a known earthquake fault, resulting in no impact. The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would result in impacts from this criterion.

Mitigation. No mitigation required.

(b) Strong seismic ground shaking (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground disturbance would occur. Therefore, the No Project Alternative would not result in substantial adverse effects involving strong seismic ground shaking, resulting in no impact. The level of impact would be less than that for the Proposed Project because the Proposed Project would result in less-than-significant impacts with mitigation incorporated from strong seismic ground shaking.

Mitigation. No mitigation required.

(c) Seismic-related ground failure, including liquefaction (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground disturbance would occur. Therefore, the No Project Alternative would not result in substantial adverse effects involving seismic-related ground failure, including liquefaction, resulting in no impact. The level of impact would be less than that for the Proposed Project because the Proposed Project would result in less-than-significant impacts with mitigation incorporated from seismic-related ground failure, including liquefaction.

Mitigation. No mitigation required.

(d) Landslides (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground disturbance would occur. Therefore, the No Project Alternative would not result in substantial adverse effects involving landslides, resulting in no impact. The level of impact would be less than that for the Proposed Project because the Proposed Project would result in less-than-significant impacts with mitigation incorporated from landslides.

Mitigation. No mitigation required.

Impact GEO-2: Result in substantial soil erosion or the loss of topsoil (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground disturbance would occur. Therefore, the No Project Alternative would not result in substantial soil erosion or the loss of topsoil, resulting in no impact. The level of impact would be less than that for the Proposed Project because the Proposed Project would result in less-than-significant impacts from soil erosion and loss of topsoil.

Mitigation. No mitigation required.

Impact GEO-3: 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 (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground disturbance would occur. Therefore, the No Project Alternative would not result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse, resulting in no impact. The level of impact would be less than that of the Proposed Project because the Proposed Project would result in less-than-significant impacts with mitigation incorporated from unstable soils.

Mitigation. No mitigation required.

Impact GEO-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground disturbance would occur. Therefore, the No Project Alternative would not create any substantial direct or indirect risk to life or property because of expansive soils, resulting in no impact. The level of impact would be less than that of the Proposed Project because the Proposed Project would result in less-than-significant impacts with mitigation incorporated from expansive soils.

Mitigation. No mitigation required.

Impact GEO-5: 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 (Significant and Unavoidable Impact)

Under the No Project Alternative, the wastewater system in Paradise would continue to consist of individual, privately owned septic tanks and leach fields with subsurface disposal systems. According to the 2017 Report, high-density septic systems and leach fields in Paradise have resulted in the continual exceedance of soil capacities to absorb and treat wastewater, causing degradation of the groundwater below the septic systems, which is characteristic of failed or failing septic systems (Bennett Engineering Services 2017). Therefore, under the No Project Alternative, soils would become incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems, resulting in a significant and unavoidable impact. The level of impact would be greater than that for the Proposed Project because the Proposed Project would result in no impact from soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems.

Mitigation. No available mitigation.

Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no ground disturbance would occur. Therefore, the No Project Alternative would not destroy a paleontological resource or site or unique geologic feature, resulting in no impact. The level of impact would be less than that for the Proposed Project because there is potential that paleontological resources would be inadvertently disturbed during construction of the Proposed Project, resulting in less-than-significant impacts with mitigation incorporated.

Mitigation. No mitigation required.

5.5.6.2 Entler Avenue Hybrid Alternative

Impact GEO-1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

(e) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (No Impact)

The Entler Avenue Hybrid Alternative is not located within an Alquist-Priolo Earthquake Fault Zone (DOC 2019a). No known active faults traverse the Entler Avenue Hybrid Alternative. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would not result in substantial adverse effects involving rupture of a known earthquake fault, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment are located within a fault zone and no impact would occur under this criterion.

Mitigation. No mitigation required.

(f) Strong seismic ground shaking (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would include the use of vibration-generating equipment during construction. The use of vibration-generating equipment may exacerbate ground shaking in the Entler Avenue Hybrid Alternative area, resulting in a significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to ground shaking during construction to less than significant. Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate ground shaking. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Entler Avenue Hybrid Alternative would not result in substantial adverse effects involving ground shaking, resulting in a less than significant impact. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts involving ground shaking during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to ground shaking during construction would be less than significant.

(g) Seismic-related ground failure, including liquefaction (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would include the use of vibration-generating equipment during construction. The use of vibration-generating equipment may exacerbate liquefaction in the Entler Avenue Hybrid Alternative area, resulting in a significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to liquefaction during construction to less than significant. Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate liquefaction. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Entler Avenue Hybrid Alternative would not result in substantial adverse effects involving liquefaction, resulting in a less than significant impact. The level of

impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts involving liquefaction during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to liquefaction during construction would be less than significant.

(h) Landslides (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would include the use of vibration-generating equipment during construction. The use of vibration-generating equipment may exacerbate landslides in the Entler Avenue Hybrid Alternative area, resulting in a significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to landslides during construction to less than significant. Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate landslides. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Entler Avenue Hybrid Alternative would not result in substantial adverse effects involving landslides, resulting in a less than significant impact.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts involving landslides during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to landslides during construction would be less than significant.

Impact GEO-2: Result in substantial soil erosion or the loss of topsoil (Less than Significant Impact)

The Entler Avenue Hybrid Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.7, Geology, Soils, and Paleontological Resources. The Entler Avenue Hybrid Avenue Alternative would expose and disturb soil during construction. Exposed and disturbed soils are vulnerable to erosion. As part of the Entler Avenue Hybrid Alternative, the Town of Paradise will be required to prepare a SWPPP to comply with the SWRCB's CGP. The SWPPP will identify BMPs to be implemented on-site to minimize soil erosion during construction, including sediment and erosion control measures and other measures to control chemical contaminants. In addition, this alternative will be required to comply with the grading permit requirements of the Paradise, Butte County, and Chico. The grading permit process would ensure that erosion control measures are incorporated into the plans and implemented during construction. Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities that could expose or disturb soil. Therefore, impacts related to soil erosion or loss of topsoil from the Entler Avenue Hybrid Alternative would be less than significant. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts from soil erosion and loss of topsoil.

Mitigation. No mitigation required.

Impact GEO-3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would include the use of vibration-generating equipment during construction. The use of vibration-generating equipment may exacerbate on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse in the Entler Avenue Hybrid Alternative area, resulting in a significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, impacts related to on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during operation and maintenance of the Entler Avenue Hybrid Alternative would be less than significant.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts associated with on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during construction would be less than significant.

Impact GEO-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would include the use of vibration-generating equipment during construction. The use of vibration-generating equipment may exacerbate risks associated with expansive soils in the Entler Avenue Hybrid Alternative area, resulting in a significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to expansive soils during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate risks associated with expansive soils. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, impacts related to expansive soils during operation and maintenance of the Entler Avenue Hybrid Alternative would be less than significant.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts associated with expansive soils during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to expansive soils during construction would be less than significant.

Impact GEO-5: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater (No Impact)

Similar to the Proposed Project, the Entler Avenue Hybrid Alternative would replace individualized septic systems within the Paradise sewer service area with a sewer system. No portion of this alternative incorporates septic tanks or alternative wastewater disposal systems. Consistent with the analysis for the Proposed Project, there would be a beneficial impact on soils by replacing existing failed or failing septic systems with a wastewater treatment solution. Therefore, the Entler Avenue Hybrid Alternative would not locate septic tanks or alternative wastewater disposal systems on soils incapable of adequate support, resulting in no impact. The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would result in impacts under this criterion.

Mitigation. No mitigation required.

Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would involve ground disturbing activities during construction. Ground disturbance during construction could disturb unknown paleontological resources within the Entler Avenue Hybrid Alternative, resulting in a potentially significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-2: Inadvertent Discovery Protocol**), which would reduce impacts on paleontological resources during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to impact paleontological resources. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, impacts on paleontological resources during operation and maintenance of the Entler Avenue Hybrid Alternative would be less than significant.

Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts on paleontological resources during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-GEO-2** will be implemented.

MM-GEO-2: Inadvertent Discovery Protocol (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-2**, impacts on paleontological resources during construction would be less than significant.

5.5.6.3 Crouch Avenue Alternative

Impact GEO-1: 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 (No Impact)

The Crouch Avenue Alternative is not located within an Alquist-Priolo Earthquake Fault Zone (DOC 2019a). No known active faults traverse the Crouch Avenue Alternative. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would not result in substantial adverse effects involving rupture of a known earthquake fault, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment are located within a fault zone and no impact would occur under this criterion.

Mitigation. No mitigation required.

(j) Strong seismic ground shaking (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would include the use of vibration-generating equipment during construction. The use of vibration-generating equipment may exacerbate ground shaking in the Crouch Avenue Alternative area, resulting in a significant impact. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to ground shaking during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate ground shaking. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Crouch Avenue Alternative would not result in substantial adverse effects involving ground shaking, resulting in a less than significant impact.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts involving ground shaking during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to ground shaking during construction would be less than significant.

(k) Seismic-related ground failure, including liquefaction (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would include use of vibration-generating equipment during construction. The use of vibration-generating equipment may exacerbate liquefaction in the Crouch Avenue Alternative area, resulting in a significant impact. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to liquefaction during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate liquefaction. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Crouch Avenue Alternative would not result in substantial adverse effects involving liquefaction, resulting in a less than significant impact.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts involving liquefaction during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to liquefaction during construction would be less than significant.

(l) Landslides (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would include the use of vibration-generating equipment during construction. The use of vibration-generating equipment

may exacerbate landslides in the Crouch Avenue Alternative area, resulting in a significant impact. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to landslides during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate landslides. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Crouch Avenue Alternative would not result in substantial adverse effects involving landslides, resulting in a less than significant impact.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts involving landslides during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to landslides during construction would be less than significant.

Impact GEO-2: Result in substantial soil erosion or the loss of topsoil (Less than Significant Impact)

The Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.7, Geology, Soils, and Paleontological Resources. The Crouch Avenue Alternative would expose and disturb soil during construction. Exposed and disturbed soils are vulnerable to erosion. As part of the Crouch Avenue Alternative, the Town of Paradise will be required to prepare a SWPPP to comply with the SWRCB's CGP. The SWPPP will identify BMPs to be implemented on-site to minimize soil erosion during construction, including sediment and erosion control measures and other measures to control chemical contaminants. In addition, this alternative will be required to comply with the grading permit requirements of the Paradise, Butte County, and Chico. The grading permit process would ensure that erosion control measures are incorporated into the plans and implemented during construction. Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities that could expose or disturb soil. Therefore, impacts related to soil erosion or loss of topsoil from the Crouch Avenue Alternative would be less than significant. The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts from soil erosion and loss of topsoil.

Mitigation. No mitigation required.

Impact GEO-3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would include the use of vibration-generating equipment during construction. The use of vibration-generating equipment may exacerbate on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse in the Crouch Avenue Alternative area, resulting in a significant impact. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, impacts related to on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during operation and maintenance of the Crouch Avenue Alternative would be less than significant.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts associated with on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during construction would be less than significant.

Impact GEO-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would include the use of vibration-generating equipment during construction. The use of vibration-generating equipment may exacerbate risks associated with expansive soils in the Crouch Avenue Alternative area, resulting

in a significant impact. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to expansive soils during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate risks associated with expansive soils. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, impacts related to expansive soils during operation and maintenance of the Crouch Avenue Alternative would be less than significant.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts associated with expansive soils during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to expansive soils during construction would be less than significant.

Impact GEO-5: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater (No Impact)

Similar to the Proposed Project, the Crouch Avenue Alternative would replace individualized septic systems within the Paradise sewer service area with a sewer system. No portion of this alternative incorporates septic tanks or alternative wastewater disposal systems. Consistent with the analysis for the Proposed Project, there would be a beneficial impact on soils by replacing existing failed or failing septic systems with a wastewater treatment solution. Therefore, the Crouch Avenue Alternative would not locate septic tanks or alternative wastewater disposal systems on soils incapable of adequate support, resulting in no impact. The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would result in impacts under this criterion.

Mitigation. No mitigation required.

Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would involve ground disturbing activities during construction. Ground disturbance during construction could disturb

unknown paleontological resources within the Crouch Avenue Alternative, resulting in a potentially significant impact. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-2: Inadvertent Discovery Protocol**), which would reduce impacts on paleontological resources during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to impact paleontological resources. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, impacts on paleontological resources during operation and maintenance of the Proposed Project would be less than significant.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts on paleontological resources during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-GEO-2** will be implemented.

MM-GEO-2: Inadvertent Discovery Protocol (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-2**, impacts on paleontological resources during construction would be less than significant.

5.5.6.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact GEO-1: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

(a) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (No Impact)

The Entler Avenue Hybrid and Crouch Avenue Alternative is not located within an Alquist-Priolo Earthquake Fault Zone (DOC 2019a). No known active faults traverse the Entler Avenue Hybrid and Crouch Avenue Alternative. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not result in substantial adverse effects involving rupture of a known earthquake fault, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project alignment are located within a fault zone and no impact would occur under this criterion.

Mitigation. No mitigation required.

(b) Strong seismic ground shaking (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would include the use of vibration-generating equipment during construction. The use of vibration-generating equipment may exacerbate ground shaking in the Entler Avenue Hybrid and Crouch Avenue Alternative area, resulting in a significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to ground shaking during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate ground shaking. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not result in substantial adverse effects involving ground shaking, resulting in a less than significant impact.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts involving ground shaking during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to ground shaking during construction would be less than significant.

(c) Seismic-related ground failure, including liquefaction (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would include the use of vibration-generating equipment during construction. The use of vibration-generating equipment may exacerbate liquefaction in the Entler Avenue Hybrid and Crouch Avenue Alternative area, resulting in a significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to liquefaction during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation

and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate liquefaction. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not result in substantial adverse effects involving liquefaction, resulting in a less than significant impact.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts involving liquefaction during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to liquefaction during construction would be less than significant.

(d) Landslides (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would include the use of vibration-generating equipment during construction. The use of vibration-generating equipment may exacerbate landslides in the Entler Avenue Hybrid and Crouch Avenue Alternative area, resulting in a significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to landslides during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate landslides. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not result in substantial adverse effects involving landslides, resulting in a less than significant impact.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts involving landslides during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to landslides during construction would be less than significant.

Impact GEO-2: Result in substantial soil erosion or the loss of topsoil (Less than Significant Impact)

The Entler Avenue Hybrid and Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.7, Geology, Soils, and Paleontological Resources. The Entler Avenue Hybrid and Crouch Avenue Alternative would expose and disturb soil during construction. Exposed and disturbed soils are vulnerable to erosion. As part of the Entler Avenue Hybrid and Crouch Avenue Alternative, the Town of Paradise will be required to prepare a SWPPP to comply with the SWRCB's CGP. The SWPPP will identify BMPs to be implemented on-site to minimize soil erosion during construction, including sediment and erosion control measures and other measures to control chemical contaminants. In addition, this alternative will be required to comply with the grading permit requirements of the Paradise, Butte County, and Chico. The grading permit process would ensure that erosion control measures are incorporated into the plans and implemented during construction. Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities that could expose or disturb soil. Therefore, impacts related to soil erosion or loss of topsoil from the Entler Avenue Hybrid and Crouch Avenue Alternative would be less than significant. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in less-than-significant impacts from soil erosion and loss of topsoil.

Mitigation. No mitigation required.

Impact GEO-3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would include the use of vibration-generating equipment during construction. The use of vibration-generating equipment may exacerbate on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse in the Entler Avenue Hybrid and Crouch Avenue Alternative area, resulting in a significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate on- or off-site landslide, lateral spreading, subsidence,

liquefaction, or collapse. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, impacts related to on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would be less than significant.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts associated with on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse during construction would be less than significant.

Impact GEO-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would include the use of vibration-generating equipment during construction. The use of vibration-generating equipment may exacerbate risks associated with expansive soils in the Entler Avenue Hybrid and Crouch Avenue Alternative area, resulting in a significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts related to expansive soils during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to exacerbate risks associated with expansive soils. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, impacts related to expansive soils during operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would be less than significant.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts associated with expansive soils during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-GEO-1** will be implemented.

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-1**, impacts related to expansive soils during construction would be less than significant.

Impact GEO-5: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater (No Impact)

Similar to the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would replace individualized septic systems within the Paradise sewer service area with a sewer system. No portion of this alternative incorporates septic tanks or alternative wastewater disposal systems. Consistent with the analysis for the Proposed Project, there would be a beneficial impact on soils by replacing existing failed or failing septic systems with a wastewater treatment solution. Therefore, the Entler Avenue Hybrid and Crouch Avenue Alternative would not locate septic tanks or alternative wastewater disposal systems on soils incapable of adequate support, resulting in no impact. The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project alignment would result in impacts under this criterion.

Mitigation. No mitigation required.

Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would involve ground disturbing activities during construction. Ground disturbance during construction could disturb unknown paleontological resources within the Entler Avenue Hybrid and Crouch Avenue Alternative, resulting in a potentially significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-GEO-2: Inadvertent Discovery Protocol**), which would reduce impacts on paleontological resources during construction to less than significant.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to impact paleontological resources. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, impacts on paleontological resources during operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would be less than significant.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts on paleontological resources during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-GEO-2** will be implemented.

MM-GEO-2: Inadvertent Discovery Protocol (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-GEO-2**, impacts on paleontological resources during construction would be less than significant.

5.5.6.5 Alternatives Impact Summary

Table 5.5-6 summarizes the geology, soils, and paleontological resources impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-6. Alternatives Impacts Summary for Geology, Soils, and Paleontological Resources

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact GEO-1(a): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact GEO-1(b): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Strong seismic ground shaking	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact GEO-1(c): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Seismic-related ground failure, including liquefaction	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact GEO-1(d): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Landslides	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact GEO-2: Result in substantial soil erosion or the loss of topsoil	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact GEO-3: 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	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact GEO-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact GEO-5: 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	NI	SU (+)	NI (=)	NI (=)	NI (=)
Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.7 Greenhouse Gas Emissions

5.5.7.1 No Project Alternative

Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment (No Impact)

Under the No Project Alternative, existing conditions would remain the same. No construction would occur; therefore, no GHG emissions would be generated. The No Project Alternative would not generate GHG emissions that have a significant impact on the environment. Therefore, no impact would occur. The level of impact would be less than that of the Proposed Project because the No Project Alternative would not generate GHG emissions, while the Proposed Project would have a less-than-significant impact from the generation of GHG emissions.

Mitigation. No mitigation required.

Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions (No Impact)

Under the No Project Alternative, existing conditions would remain the same. No construction would occur; therefore, no GHG emissions would be generated. The No Project Alternative would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Therefore, no impact would occur. The level of impact would be the same as that for the Proposed

Project because neither the No Project Alternative nor the Proposed Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

Mitigation. No mitigation required.

5.5.7.2 Entler Avenue Hybrid Alternative

Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would generate GHG emissions during construction. The Entler Avenue Hybrid Alternative would generate GHG emissions similar to those listed in Table 3.8-1, Unmitigated Construction GHG Emissions. The amortized construction GHG emissions from this alternative would not exceed SMAQMD's threshold of 1,100 MT CO_2e per year. Therefore, construction of the Entler Avenue Hybrid Alternative would result in a less-than-significant impact from GHG emissions. GHG emissions during operation and maintenance activities of this alternative would be minimal and immeasurable due to the infrequency of these activities, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because impacts from GHG emissions would be less than significant for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative.

Mitigation. No mitigation required.

Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions (No Impact)

SB 32 is the current legislation to reduce GHG emissions within California. As discussed under Impact GHG-1, construction of the Entler Avenue Hybrid Alternative would generate GHG emissions that do not exceed SMAQMD's threshold of significance of 1,100 MT CO_2e per year. SMAQMD's threshold is consistent with GHG emissions reduction goals set forth by SB 32, which mandates a GHG emissions target of 40 percent below 1990 levels by 2030. Since the construction GHG emissions generated by the Entler Avenue Hybrid Alternative are below SMAQMD's threshold of significance, it would not conflict with SB 32 GHG emissions reduction goals. GHG emissions during operation and maintenance activities of this alternative would be minimal and immeasurable due to the infrequency of these activities. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would not conflict with any plan, policy, or regulation adopted for the purpose of reducing GHG emissions, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

Mitigation. No mitigation required.

5.5.7.3 Crouch Avenue Alternative

Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would generate GHG emissions during construction. The Crouch Avenue Alternative would generate GHG emissions similar to those listed in Table 3.8-1, Unmitigated Construction GHG Emissions. The amortized construction GHG emissions from this alternative would not exceed SMAQMD's threshold of 1,100 MT CO_2e per year. Therefore, construction of the Crouch Avenue Alternative would result in a less-than-significant impact from GHG emissions. GHG emissions during operation and maintenance activities of this alternative would be minimal and immeasurable due to the infrequency of these activities, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because impacts from GHG emissions would be less than significant for both the Proposed Project Entler Avenue alignment and the Crouch Avenue Alternative.

Mitigation. No mitigation required.

Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions (No Impact)

SB 32 is the current legislation to reduce GHG emissions within California. As discussed under Impact GHG-1, construction of the Crouch Avenue Alternative would generate GHG emissions that do not exceed SMAQMD's threshold of significance of 1,100 MT CO_2e per year. SMAQMD's threshold is consistent with GHG emissions reduction goals set forth by SB 32, which mandates a GHG emissions target of 40 percent below 1990 levels by 2030. Since the construction GHG emissions generated by the Crouch Avenue Alternative are below SMAQMD's threshold of significance, it would not conflict with SB 32 GHG emissions reduction goals. GHG emissions during operation and maintenance activities of this alternative would be minimal and immeasurable due to the infrequency of these activities. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would not conflict with any plan, policy, or regulation adopted for the purpose of reducing GHG emissions, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

Mitigation. No mitigation required.

5.5.7.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would generate GHG emissions during construction. The Entler Avenue Hybrid and Crouch

Avenue Alternative would generate GHG emissions similar to those listed in Table 3.8-1, Unmitigated Construction GHG Emissions. The amortized construction GHG emissions from this alternative would not exceed SMAQMD's threshold of 1,100 MT CO_2e per year. Therefore, construction of the Entler Avenue Hybrid and Crouch Avenue Alternative would result in a less-than-significant impact from GHG emissions. GHG emissions during operation and maintenance activities of this alternative would be minimal and immeasurable due to the infrequency of these activities, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because impacts from GHG emissions would be less than significant for both the Proposed Project alignment and the Entler Avenue Hybrid and Crouch Avenue Alternative.

Mitigation. No mitigation required.

Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions (No Impact)

SB 32 is the current legislation to reduce GHG emissions within California. As discussed under Impact GHG-1, construction of the Entler Avenue Hybrid and Crouch Avenue Alternative would generate GHG emissions that do not exceed SMAQMD's thresholds of 1,100 MT CO_2e per year. SMAQMD's threshold is consistent with GHG emissions reduction goals set forth by SB 32, which mandates a GHG emissions target of 40 percent below 1990 levels by 2030. Since the construction GHG emissions generated by the Entler Avenue Hybrid and Crouch Avenue Alternative are below SMAQMD's threshold of significance, it would not conflict with SB 32 GHG emissions reduction goals. GHG emissions during operation and maintenance activities would be minimal and immeasurable due to the infrequency of these activities. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not conflict with any plan, policy, or regulation adopted for the purpose of reducing GHG emissions, resulting in no impact.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project alignment would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.

Mitigation. No mitigation required.

5.5.7.5 Alternatives Impact Summary

Table 5.5-7 summarizes the GHG emissions impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-7. Alternatives Impacts Summary for GHG Emissions

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions	NI	NI (=)	NI (=)	NI (=)	NI (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.8 Hazards and Hazardous Materials

5.5.8.1 No Project Alternative

Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (No Impact)

Under the No Project Alternative, existing conditions would remain the same. No construction would occur; therefore, no potential for construction related hazardous materials use, transportation, or disposal would occur beyond that of existing conditions. The No Project Alternative would not pose a threat from hazards or hazardous materials that would have a significant impact on the environment. Therefore, no impact would occur. The level of impact would be less than that of the Proposed Project because the No Project Alternative would not use construction related hazardous materials, while the Proposed Project would have a less-than-significant impact from the use, transportation, or disposal of construction related hazardous materials.

Mitigation. No mitigation required.

Impact HAZ-2: 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 (No Impact)

Under the No Project Alternative, existing conditions would remain the same. No construction would occur; therefore, no potential for the possible release of construction related hazardous materials would occur beyond that of existing conditions. The No Project Alternative would not pose a threat from hazards or hazardous materials that would have a significant impact on the environment. Therefore, no impact would occur. The level of impact would be less than that of the Proposed Project because the No Project Alternative would not use construction related hazardous materials, while the Proposed Project would have a less-than-significant impact from the possible release of construction related hazardous materials.

Mitigation. No mitigation required.

Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (No Impact)

Under the No Project Alternative, existing conditions would remain the same. No construction would occur; therefore, no potential for the emission of construction related hazardous materials near a school

would occur beyond that of existing conditions. Therefore, no impact would occur. The level of impact would be less than that of the Proposed Project because the No Project Alternative would not use construction related hazardous materials, while the Proposed Project would have a less-than-significant impact from the possible emission of construction related hazardous materials.

Mitigation. No mitigation required.

Impact HAZ-4: Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment (No Impact)

Under the No Project Alternative, existing conditions would remain the same. No construction would occur; therefore, no potential for construction at a listed site would occur. Therefore, no impact would occur. The level of impact would be less than that of the Proposed Project because the No Project Alternative would not construct any infrastructure, while the Proposed Project would have a less-than-significant impact from construction at a listed site.

Mitigation. No mitigation required.

Impact HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area (No Impact)

Under the No Project Alternative, existing conditions would remain the same. No construction would occur; therefore, no potential for airport noise hazards would occur. Therefore, no impact would occur. The level of impact would be the same as that of the Proposed Project because the No Project Alternative would not have potential to encounter airport noise hazards, and the Proposed Project would also have no impact because there are no public airports within 2 miles of the study area.

Mitigation. No mitigation required.

Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (No Impact)

Under the No Project Alternative, existing conditions would remain the same. No construction would occur; therefore, no potential for emergency response or evacuation interruptions would occur. Therefore, no impact would occur. The level of impact would be less than that of the Proposed Project because the No Project Alternative have no potential for emergency response or evacuation interruptions, while the Proposed Project would have a less-than-significant impact from minor construction interruptions to emergency response or evacuation.

Mitigation. No mitigation required.

Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires (No Impact)

Under the No Project Alternative, existing conditions would remain the same. No construction would occur; therefore, no increase potential for wildland fires would occur. Therefore, no impact would occur. The level of impact would be less than that of the Proposed Project because the No Project Alternative have no increased potential for wildland fires, while the Proposed Project would have a less-than-significant impact from wildland fires.

Mitigation. No mitigation required.

5.5.8.2 Entler Avenue Hybrid Alternative

Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would include the use, transportation, and disposal of construction or inspection related hazardous materials, such as vehicle fuels, grease, asphalt, concrete, lubricants, and drilling fluids which could pose a threat as hazardous materials. Using these materials, including their routine transport and disposal, carries the potential for an accidental release into the local environment, including near the waterbodies that are the locations of the proposed trenchless crossings. The alternative would require the implementation of a SWPPP and coverage under the NPDES construction general permit for discharges of storm water associated with construction and land disturbance activities. The SWPPP would include measures to safely use and store such hazardous materials to reduce impacts However, with vehicle and equipment use comes the potential for spills during maintenance and refueling which would be a significant impact. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would result in a significant impact from the use, transportation, and generation of hazardous materials. The Entler Avenue Hybrid location would implement the same mitigation measure as the Proposed Project (**MM-HAZ-1: Vehicle and Equipment Access and Fueling),** which would reduce impacts to a less than significant level during construction, operation and maintenance. The level of impact would be the same as that for the Proposed Project because impacts from the use, transportation, or disposal of hazardous materials would be reduced to a less than significant level for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative after mitigation is incorporated.

Mitigation. To minimize significant impacts from the routine transport, use, or disposal of hazardous materials associated with the construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-HAZ-1** will be implemented.

MM-HAZ-1: Vehicle and Equipment Access and Fueling (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-1**, impacts on the routine transport, use or disposal of hazardous materials would be less than significant.

Mitigation. No mitigation required.

Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would include the possible release of construction or inspection related hazardous materials. However, the Proposed Project would be required to implement a SWPPP with best management practices to reduce the likelihood and severity of the release of construction related pollutants like fuel and grease. Any contaminated soils or groundwater encountered by the project would be managed, stored, and disposed of in accordance with requirements of the SWPPP and NPDES permit Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would result in a less-than-significant impact from the possible release of hazardous materials. The level of impact would be the same as that for the Proposed Project because impacts from the possible release of hazardous materials would be less than significant for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative.

Mitigation. No mitigation required.

Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative has the potential to emit hazardous materials or substances through the use of common construction materials. However, the risk of release would be reduced through implementation of the Project SWPPP. Additionally, the alternative would implement BCAQMD best practice measures (listed in Section 3.3 Air Quality) to reduce diesel particulate matter. Therefore, with implementation of a Project SWPPP, BCAQMD best practice measures, and consistency with hazardous materials handling and air quality district requirements, impacts from construction within one-quarter mile of an existing school would be less than significant. The level of impact would be the same as that for the Proposed Project because impacts from the emission of hazardous materials would be less than significant for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative.

Mitigation. No mitigation required.

Impact HAZ-4: 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 (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative could include construction or inspection at a listed site. However, any contaminated soils encountered by the alternative would be managed, stored, and disposed of in accordance with requirements of the SWPPP and NPDES permit thus reducing impacts. Additionally, any hazardous materials encountered, including contaminated soils and groundwater, would be managed and disposed of in accordance with

California Department of Toxic Substances Control regulations. Further, the alternative would have to comply with regional, state, and federal requirements for the transport, use, and disposal of hazardous materials. However, while unlikely, the potential remains to encounter contaminated soils and impacts would be significant. The Entler Avenue Hybrid Alternative location would implement the same mitigation measure as the Proposed Project (**MM-HAZ-2: Cypress Lane Site Specific Contaminated Soil Management Plan),** which would reduce impacts to a less than significant level during construction, operation, and maintenance. The level of impact would be the same as that for the Proposed Project because impacts from being located at a listed site would be less than significant for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative after mitigation is incorporated.

Mitigation. To minimize potentially significant impacts from being located on a hazardous materials site associated with construction, operation, and maintenance of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-HAZ-2** will be implemented.

MM-HAZ-2: Cypress Lane Site Specific Contaminated Soil Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-2**, impacts from being located on a hazardous materials site would be less than significant.

Impact HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area (No Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would not be located within 2 miles of a public airport. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would result in no impact from noise from being located within 2 miles of a public airport. The level of impact would be the same as that for the Proposed Project because neither the Proposed Project nor the Enter Avenue Hybrid Alternative would be located within 2 miles of a public airport.

Mitigation. No mitigation required.

Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative could include the potential for minor interruptions to emergency response or evacuation routes due to full or partial road closures during construction. Interruptions would be temporary during construction. However, installation of the Export Pipeline System would occur along Skyway, which is an evacuation route in Paradise. Therefore, the construction area for the Export Pipeline System along Skyway could potentially interfere with the flow of evacuation traffic. As a result, the impact on an emergency response or emergency evacuation plan would be significant during construction. The Entler Avenue Hybrid Alternative location would implement the same mitigation measures as the Proposed Project

(**MM-HAZ-3: Road Closure Restrictions, MM-HAZ-HAZ-4: Rapid Demobilization Plan, MM-HAZ-5: Evacuation Warning Procedures,** and **MM-HAZ-6: Traffic Management Plan),** which would reduce impacts to a less than significant level during construction. There would be no interruptions from operation and maintenance activities. The level of impact would be the same as that for the Proposed Project because impacts from interruptions to emergency response or evacuation routes would be less than significant for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative after the implementation of mitigation.

Mitigation. To minimize significant impacts on an emergency response and emergency evacuation plan associated with construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measures **MM-HAZ-3**, **MM-HAZ-4**, **MM-HAZ-5**, and **MM-HAZ-6** will be implemented.

MM-HAZ-3: Road Closure Restrictions (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-HAZ-4: Rapid Demobilization Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-5: Evacuation Warning Procedures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-3**, **MM-HAZ-4**, **MM-HAZ-5**, and **MM-HAZ-6**, impacts on an emergency response plan or emergency evacuation plan would be less than significant.

Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative could include the potential exposing workers to wildland fires during construction. The study area is located in a Local Responsibility Area Very High Fire Hazard Severity Zone in Paradise. The export pipeline passes through State or Federal Responsibility Area Very High, High, and Moderate Fire Hazard Severity Zones (Cal Fire 2008). Project construction and routine maintenance would temporarily expose workers to hazards associated with being in areas with high wildfire danger. Therefore, impacts would be significant. The Entler Avenue Hybrid Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-1: Vehicle Equipment Access and Fueling, MM-HAZ-7: Incorporate Fire Prevention Measures, MM-HAZ-8: Incorporate Public Safety Measures,** and **MM-HAZ-9: Wildland Fire Area),** which would reduce impacts to a less than significant level during construction, operation and maintenance. The level of impact would be the same as that for the Proposed Project because impacts from wildland fire exposure would be less than significant for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative after mitigation is incorporated.

Mitigation. To minimize significant impacts from wildfire risk associated with construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measures **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9** will be implemented.

MM-HAZ-1: Vehicle Equipment Access and Fueling (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-7: Incorporate Fire Prevention Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-8: Incorporate Public Safety Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-9: Wildland Fire Area (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9**, impacts for exposing people or structures to significant risk of loss, injury, or death involving wildland fires would be less than significant.

5.5.8.3 Crouch Avenue Alternative

Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would include the use, transportation, and disposal of construction or inspection related hazardous materials. The alternative would require the implementation of a SWPPP and coverage under the NPDES construction general permit for discharges of storm water associated with construction and land disturbance activities. The SWPPP would include measures to safely use and store such hazardous materials to reduce impacts. However, with vehicle and equipment use comes the potential for spills during maintenance and refueling which would be a significant impact. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would result in a significant impact from the use, transportation, and generation of hazardous materials. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-1: Vehicle and Equipment Access and Fueling**), which would reduce impacts during construction, operation and maintenance to a less than significant level). The level of impact would be the same as that for the Proposed Project because impacts from the use, transportation, or disposal of hazardous materials would be reduced to a less than significant level for both the Proposed Project Entler Avenue alignment and the Crouch Avenue Alternative after mitigation is incorporated.

Mitigation. To minimize significant impacts from the routine transport, use, or disposal of hazardous materials associated with the construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-1** will be implemented.

MM-HAZ-1: Vehicle and Equipment Access and Fueling (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-1**, impacts on the routine transport, use or disposal of hazardous materials would be less than significant.

Mitigation. No mitigation required.

Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would include the possible release of construction or inspection related hazardous materials. However, the Proposed Project would be required to implement a SWPPP with best management practices to reduce the likelihood and severity of the release of construction related pollutants like fuel and grease. Any contaminated soils or groundwater encountered by the project would be managed, stored, and disposed of in accordance with requirements of the SWPPP and NPDES permit Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would result in a less-than-significant impact from the possible release of hazardous materials. The level of impact would be the same as that for the Proposed Project because impacts from the possible release of hazardous materials would be less than significant for both the Proposed Project Entler Avenue alignment and the Crouch Avenue Alternative.

Mitigation. No mitigation required.

Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative has the potential to emit hazardous materials or substances through the use of common construction materials. However, the risk of release would be reduced through implementation of the Project SWPPP. Additionally, the alternative would implement BCAQMD best practice measures (listed in Section 3.3 Air Quality) to reduce diesel particulate matter. Therefore, with implementation of a Project SWPPP, BCAQMD best practice measures, and consistency with hazardous materials handling and air quality district requirements, impacts from construction within one-quarter mile of an existing school would be less than significant. The level of impact would be the same as that for the Proposed Project because impacts from the emission of hazardous materials would be less than significant for both the Proposed Project Entler Avenue alignment and the Crouch Avenue Alternative.

Mitigation. No mitigation required.

Impact HAZ-4: 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 (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative could include construction or inspection at a listed site. However, any contaminated soils encountered by the

alternative would be managed, stored, and disposed of in accordance with requirements of the SWPPP and NPDES permit thus reducing impacts. Additionally, any hazardous materials encountered, including contaminated soils and groundwater, would be managed and disposed of in accordance with California Department of Toxic Substances Control regulations. Further, the alternative would have to comply with regional, state, and federal requirements for the transport, use, and disposal of hazardous materials. However, while unlikely, the potential remains to encounter contaminated soils and impacts would be significant. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project **MM-HAZ-2: Cypress Lane Site Specific Contaminated Soil Management Plan),** which would reduce impacts during construction, operation and maintenance to a less than significant level. The level of impact would be the same as that for the Proposed Project because impacts from being located at a listed site would be less than significant for both the Proposed Project Entler Avenue alignment and the Crouch Avenue Alternative after mitigation is incorporated.

Mitigation. To minimize potentially significant impacts from being located on a hazardous materials site associated with construction, operation, and maintenance of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-2** will be implemented.

MM-HAZ-2: Cypress Lane Site Specific Contaminated Soil Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-2**, impacts from being located on a hazardous materials site would be less than significant level.

Impact HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area (No Impact)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would not be located within 2 miles of a public airport. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would result in no impact from noise from being located within 2 miles of a public airport. The level of impact would be the same as that for the Proposed Project because neither the Proposed Project Entler alignment nor the Crouch Avenue Alternative would be located within 2 miles of a public airport.

Mitigation. No mitigation required.

Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative could include the potential for minor interruptions to emergency response or evacuation routes due to full or partial road closures during construction. Interruptions would be temporary during construction. However, installation of the Export Pipeline System would occur along Skyway, which is an evacuation route in Paradise. Therefore, the construction area for the Export Pipeline System along Skyway could potentially interfere with the flow of evacuation traffic. As a result, the impact on an emergency

response or emergency evacuation plan would be significant during construction. The Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-3: Road Closure Restrictions, MM-HAZ-4: Rapid Demobilization Plan, MM-HAZ-5: Evacuation Warning Procedures,** and **MM-HAZ-6: Traffic Management Plan),** which would reduce impacts to a less than significant level during construction.

There would be no interruptions from operation and maintenance activities. The level of impact would be the same as that for the Proposed Project because impacts from interruptions to emergency response or evacuation routes would be less than significant for both the Proposed Project Entler Avenue alignment and the Crouch Avenue Alternative after the implementation of mitigation.

Mitigation. To minimize significant impacts on an emergency response and emergency evacuation plan associated with construction of the Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HAZ-3**, **MM-HAZ-4**, **MM-HAZ-5**, and **MM-HAZ-6** will be implemented.

MM-HAZ-3: Road Closure Restrictions (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-4: Rapid Demobilization Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-5: Evacuation Warning Procedures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-3**, **MM-HAZ-4**, **MM-HAZ-5**, and **MM-HAZ-6**, impacts on an emergency response plan or emergency evacuation plan would be less than significant.

Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative could include the potential exposing workers to wildland fires during construction. The study area is located in a Local Responsibility Area Very High Fire Hazard Severity Zone in Paradise. The export pipeline passes through State or Federal Responsibility Area Very High, High, and Moderate Fire Hazard Severity Zones (Cal Fire 2008). Project construction and routine maintenance would temporarily expose workers to hazards associated with being in areas with high wildfire danger. Therefore, impacts would be significant. The Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-1: Vehicle Equipment Access and Fueling, MM-HAZ-7: Incorporate Fire Prevention Measures, MM-HAZ-8: Incorporate Public Safety Measures,** and **MM-HAZ-9: Wildland Fire Area),** which would reduce impacts to a less than significant level. The level of impact would be the same as that for the Proposed Project because impacts from wildland fire exposure would

be less than significant for both the Proposed Project Entler Avenue alignment and the Crouch Avenue Alternative after mitigation is incorporated.

Mitigation. To minimize significant impacts from wildfire risk associated with construction of the Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9** will be implemented.

MM-HAZ-1: Vehicle Equipment Access and Fueling (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-7: Incorporate Fire Prevention Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-8: Incorporate Public Safety Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-9: Wildland Fire Area (see Section 3.9, Hazards and Hazardous Materials, for description)**.**

Significance after Mitigation. With the implementation of **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9**, impacts for exposing people or structures to significant risk of loss, injury, or death involving wildland fires would be less than significant.

5.5.8.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would include the use, transportation, and disposal of construction or inspection related hazardous materials. The alternative would require the implementation of a SWPPP and coverage under the NPDES construction general permit for discharges of storm water associated with construction and land disturbance activities. The SWPPP would include measures to safely use and store such hazardous materials to reduce impacts However, with vehicle and equipment use comes the potential for spills during maintenance and refueling which would be a significant impact. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would result in a significant impact from the use, transportation, and generation of hazardous materials. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ:1: Vehicle and Equipment Access and Fueling),** which would reduce impacts during construction, operation and maintenance to a less than significant level. The level of impact would be the same as that for the Proposed Project because impacts from the use, transportation, or disposal of hazardous materials would be reduced to a less than significant level for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid and Crouch Avenue Alternative after mitigation is incorporated.

Mitigation. To minimize significant impacts from the routine transport, use, or disposal of hazardous materials associated with the construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-1** will be implemented.

MM-HAZ:1: Vehicle and Equipment Access and Fueling (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-1**, impacts on the routine transport, use or disposal of hazardous materials would be less than significant.

Mitigation. No mitigation required.

Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would include the possible release of construction or inspection related hazardous materials. However, the Proposed Project would be required to implement a SWPPP with best management practices to reduce the likelihood and severity of the release of construction related pollutants like fuel and grease. Any contaminated soils or groundwater encountered by the project would be managed, stored, and disposed of in accordance with requirements of the SWPPP and NPDES permit Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would result in a less-than-significant impact from the possible release of hazardous materials. The level of impact would be the same as that for the Proposed Project because impacts from the possible release of hazardous materials would be less than significant for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid and Crouch Avenue Alternative.

Mitigation. No mitigation required.

Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative has the potential to emit hazardous materials or substances through the use of common construction materials. However, the risk of release would be reduced through implementation of the Project SWPPP. Additionally, the alternative would implement BCAQMD best practice measures (listed in Section 3.3 Air Quality) to reduce diesel particulate matter. Therefore, with implementation of a Project SWPPP, BCAQMD best practice measures, and consistency with hazardous materials handling and air quality district requirements, impacts from construction within one-quarter mile of an existing school would be less than significant. The level of impact would be the same as that for the Proposed Project because impacts from the emission of hazardous materials would be less than significant for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid and Crouch Avenue Alternative.

Mitigation. No mitigation required.

Impact HAZ-4: 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 (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative could include construction or inspection at a listed site. However, any contaminated soils encountered by the alternative would be managed, stored, and disposed of in accordance with requirements of the SWPPP and NPDES permit thus reducing impacts. Additionally, any hazardous materials encountered, including contaminated soils and groundwater, would be managed and disposed of in accordance with California Department of Toxic Substances Control regulations. Further, the alternative would have to comply with regional, state, and federal requirements for the transport, use, and disposal of hazardous materials. However, while unlikely, the potential remains to encounter contaminated soils and impacts would be significant. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-2: Cypress Lane Site Specific Contaminated Soil Management Plan**), which would reduce impacts to a less than significant level during construction, operation and maintenance. The level of impact would be the same as that for the Proposed Project because impacts from being located at a listed site would be less than significant for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid and Crouch Avenue Alternative after mitigation is incorporated.

Mitigation. To minimize potentially significant impacts from being located on a hazardous materials site associated with construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-2** will be implemented.

MM-HAZ-2: Cypress Lane Site Specific Contaminated Soil Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-2**, impacts from being located on a hazardous materials site would be less than significant.

Impact HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area (No Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would not be located within 2 miles of a public airport. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would result in no impact from noise from being located within 2 miles of a public airport. The level of impact would be the same as that for the Proposed Project because neither the Proposed Project Entler alignment nor the Entler Avenue Hybrid and Crouch Avenue Alternative would be located within 2 miles of a public airport.

Mitigation. No mitigation required.

Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative could include the potential for minor interruptions to emergency response or evacuation routes due to full or partial road closures during construction. Interruptions would be temporary during construction. However, installation of the Export Pipeline System would occur along Skyway, which is an evacuation route in Paradise. Therefore, the construction area for the Export Pipeline System along Skyway could potentially interfere with the flow of evacuation traffic. As a result, the impact on an emergency response or emergency evacuation plan would be significant during construction. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-3: Road Closure Restrictions, MM-HAZ-4: Rapid Demobilization Plan, MM-HAZ-5: Evacuation Warning Procedures,** and **MM-HAZ-6: Traffic Management Plan),** which would reduce significant impacts to a less than significant level during construction.

There would be no interruptions from operation and maintenance activities. The level of impact would be the same as that for the Proposed Project because impacts from interruptions to emergency response or evacuation routes would be less than significant for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid and Crouch Avenue Alternative after the implementation of mitigation.

Mitigation. To minimize significant impacts on an emergency response and emergency evacuation plan associated with construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HAZ-3**, **MM-HAZ-4**, **MM-HAZ-5**, and **MM-HAZ-6** will be implemented.

MM-HAZ-3: Road Closure Restrictions (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-4: Rapid Demobilization Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-5: Evacuation Warning Procedures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-3**, **MM-HAZ-4**, **MM-HAZ-5**, and **MM-HAZ-6**, impacts on an emergency response plan or emergency evacuation plan would be less than significant.

Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative could include the potential exposing workers to wildland fires during construction. The study area is located in a Local Responsibility Area Very High Fire Hazard Severity Zone in Paradise. The export pipeline passes through State or Federal Responsibility Area Very High, High, and Moderate Fire Hazard Severity Zones (Cal Fire 2008). Project construction and routine maintenance would temporarily expose workers to hazards associated with being in areas with high wildfire danger. Therefore, impacts would be significant. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-1: Vehicle Equipment Access and Fueling, MM-HAZ-7: Incorporate Fire Prevention Measures, MM-HAZ-8: Incorporate Public Safety Measures,** and **MM-HAZ-9: Wildland Fire Area),** which would reduce impacts to a less than significant level during construction, operation and maintenance. The level of impact would be the same as that for the Proposed Project because impacts from wildland fire exposure would be less than significant for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid and Crouch Avenue Alternative after mitigation is incorporated.

Mitigation. To minimize significant impacts from wildfire risk associated with construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9** will be implemented.

MM-HAZ-1: Vehicle Equipment Access and Fueling, (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-7: Incorporate Fire Prevention Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-8: Incorporate Public Safety Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-9: Wildland Fire Area (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9**, impacts for exposing people or structures to significant risk of loss, injury, or death involving wildland fires would be less than significant.

5.5.8.5 Alternatives Impact Summary

Table 5.5-8 summarizes the hazards and hazardous materials impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-8. Alternatives Impacts Summary for Hazards and Hazardous Materials

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HAZ-2: 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	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact HAZ-4: 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	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 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	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.9 Hydrology and Water Quality

5.5.9.1 No Project Alternative

Impact HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (Significant and Unavoidable Impact)

Under the No Project Alternative, the wastewater system in Paradise would continue to consist of individual, privately owned septic tanks and leach fields with subsurface disposal systems. As a result, impacts on groundwater and surface water quality would persist and worsen. As discussed in Section 3.9, Hydrology and Water Quality, as a result of historical use of high-density septic systems and leach fields in Paradise include microbial contaminants, inorganic contaminants, and organic chemical contaminants. High levels of fecal coliform and septic system effluent have also degraded water quality as a result of septic system usage in the study area (Montgomery 1983). Under the No Project Alternative, septic systems and leach fields would continue to degrade surface and groundwater quality, resulting in significant and unavoidable impacts. The level of impact would be greater than that for the Proposed Project because the Proposed Project would result in beneficial water quality impacts once operational. As discussed in Section 2.3.2, removing septic systems in areas where specific systems have failed, or are projected to fail would directly respond to the goals and priorities identified in SWECB's Strategic Plan. The document also describes SWRCB's Strategic Priority Actions, and in a discussion on wastewater infrastructure and sustainability, states:

> *The need for updated and new infrastructure is particularly critical for small communities with very limited resources. The State Water Board will emphasize a renewed focus on small community wastewater projects and make it a priority to help ensure that small and/or disadvantaged communities have the resources needed to protect water quality and public health related to wastewater (SWRCB 2010).*

Mitigation. No mitigation required.

Impact HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin (No Impact)

The No Project Alternative would not result in changes to groundwater usage in the study area. The permeability of the soils study area would also not change from current conditions, and groundwater recharge would not be affected. Therefore, no impact would occur. The level of impact would be less than that for the Proposed Project because the Proposed Project would result in less-than-significant groundwater impacts.

Mitigation. No mitigation required.

Impact HYD-3: 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:

(a) Result in substantial erosion or siltation on- or off-site (No Impact)

The No Project Alternative would be consistent with current conditions, would not alter the course of any streams or rivers, and does not include construction activities or additional impervious surfaces. No structures would be built in or around waterbodies under the No Project Alternative. Therefore, there would be no impact on erosion, siltation, surface runoff, or flooding. Additionally, there would be no impact on impeding or redirecting flows and additional sources of polluted runoff. The level of impact would be less than that for the Proposed Project because the Proposed Project would result in a less-than-significant impact under Impact HYD-3 (a) through (d).

Mitigation. No mitigation required.

(b) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site (No Impact)

See discussion under Impact HYD-3 (a).

Mitigation. No mitigation required.

(c) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff (No Impact)

See discussion under Impact HYD-3 (a).

Mitigation. No mitigation required.

(d) Impede or redirect flood flows (No Impact)

See discussion under Impact HYD-3 (a).

Mitigation. No mitigation required.

Impact HYD-4: In flood hazard zones, risk release of pollutants due to Project inundation (Significant and Unavoidable Impact)

As discussed in Section 3.10, there are Special Flood Hazard Areas (areas susceptible to a 100-year flood) in the study area. Under the No Project Alternative, groundwater and surface water quality could continue to be degraded as a result of high-density septic system usage and leach fields. If the study area were to be inundated during a flood, there is a risk that pollutants would be released and dispersed into nearby surface waterbodies or further infiltrate into groundwater resources, resulting in a significant and unavoidable impact. The level of impact would be greater than that for the Proposed Project because the Proposed Project would result in less than significant impacts from being located within a flood hazard zone.

Mitigation. No available mitigation.

Impact HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan (Significant and Unavoidable Impact)

As discussed in Section 3.10, the study area would be covered by the *Water Quality Control Plan for the Central Valley Region* (RWQCB 2018). The Butte County Groundwater Conservation Ordinance also applies to the study area. The Butte County Groundwater Conservation Ordinance addresses groundwater extractions that harm the Butte Basin Aquifer. No groundwater extractions would occur under the No Project Alternative. However, as discussed in Impact HYD-1, under the No Project Alternative significant impacts on groundwater and surface water quality could occur through continued use of septic systems and leach fields. This continued degradation of surface and groundwater quality would conflict with the *Water Quality Control Plan for the Central Valley Region*, resulting in significant and unavoidable impacts. The level of impact would be greater than that for the Proposed Project because the Proposed Project would have no impact under this criterion and would result in beneficial impacts to surface and groundwater quality.

Mitigation. No available mitigation.

5.5.9.2 Entler Avenue Hybrid Alternative

Impact HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (Less than Significant Impact with Mitigation Incorporated)

The impact analysis for the Entler Avenue Hybrid Alternative would be similar to the analysis for the Proposed Project. As discussed for the Proposed Project, the Entler Avenue Hybrid Alternative would improve surface and groundwater quality in the study area through the removal of septic systems and implementation of an improved sewer system. The Entler Avenue Hybrid Alternative would require trenchless crossings of Butte Creek. Launching and receiving pits used for trenchless crossings would be set back to avoid riparian vegetation, which would also minimize effects to surface water quality. Ground disturbance and work near waterbodies during implementation of the Export Pipeline System could impact water quality. Consistent with the Proposed Project, the Entler Avenue Hybrid Alternative would include implementation of a construction SWPPP which would require BMPs to minimize potential short-term increases in sediment transport caused by construction. The Entler Avenue Hybrid Alternative would also require regulatory permits from USACE (Section 404 and Section 408), the Regional Board (Section 401), and CDFW (Streambed Alteration Agreement). This alternative would also require a CGP and Small MS4 permit. Compliance with these permitting requirements would protect water quality during construction. However, there is still potential for adverse water quality impacts during construction. If implementation of the project were to cause adverse water quality impacts, this would result in a significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-1: Vehicle and Equipment Access and Fueling, MM-HYD-1: Stormwater Management and Treatment Plan, MM-HYD-2: Construction Best Management Practices,** and **MM-BIO-15: Frac-Out-Plan),** which would reduce impacts to a less than significant level during construction.

In the event of a sewer main break during operations, the Town Wastewater Department will develop an Operations Response Plan as part of its overall operations and maintenance processes that will

provide direction for handling such an occurrence. The Department will also have on-hand the equipment and spare parts necessary to rapidly implement a repair.

The Entler Avenue Hybrid Alternative would add an additional 0.5 mgd of wastewater to be treated at Chico WPCP and discharged to the Sacramento River through a submerged outfall diffuser regulated in accordance with NPDES Permit No. CA0079081 (Order No. R5-2016-0023). The additional 0.5 mgd of wastewater is within the permitted allowance.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in beneficial water quality impacts once operational and would require mitigation to reduce impacts to a less than significant level during construction.

Mitigation. To minimize potentially significant impacts on water quality associated with construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measures **MM-HAZ-1**, **MM-HYD-1**, **MM-HYD-2**, and **MM-BIO-15** will be implemented.

MM-HAZ-1: Vehicle and Equipment Access and Fueling (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

MM-HYD-2: Construction Best Management Practices (see Section 3.10, Hydrology and Water Quality, for description)

MM-BIO-15: Frac-Out-Plan (see Section 3.4 Biological Resources, for description)**.**

Significance after Mitigation. With implementation of **MM-HAZ-1**, **MM-HYD-1**, **MM-HYD-2**, and **MM-BIO-15**, impacts to water quality would be less than significant.

Impact HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would not involve the use of groundwater during construction; however, groundwater could be encountered during ground disturbance for construction of the Export Pipeline System. This alternative would require pit excavations for trenchless crossings, and any water encountered during excavations would be placed into a settling tank before being trucked to a nearby sewer main for discharge. Any localized lowering of the groundwater table as a result of excavations and trenchless crossings would be anticipated to recover quickly and would not cause a net deficit in aquifer volume or a lowering of the groundwater table. Additionally, this alternative would not introduce impervious surfaces that would impede groundwater recharge because the right of way or other area disturbed during construction would be restored. Impacts on groundwater would be less than significant, and no mitigation would be required. The level of impact would be the same as that for the Proposed Project because both the Entler

Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on groundwater supplies or groundwater recharge.

Mitigation. No mitigation required.

Impact HYD-3: 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:

(a) Result in substantial erosion or siltation on- or off-site (Less than Significant Impact with Mitigation Incorporated)

This alternative would require trenchless crossings under Butte Creek. Temporary water quality impacts could result from sediment discharge from areas of disturbance and construction near water resources. The crossings would be required to have a minimum depth of 20 feet below the waterbody with a launching and receiving pit on either end of the crossing. As discussed in Section 2.5.2 Export Pipeline System, and shown in Figure 2-12 Typical HDD Installation, there would be an approximate 10- by 5-foot launching and receiving pit and additional protected space on either end of the waterbody.

Prior to construction and ground disturbing activities, Town would require that the contractor comply with the State Water Resources Control Board CGP, which requires the preparation and implementation of a SWPPP. In addition to the CGP, the alternative would require a Small MS4 Permit. The alternative would comply with mandates set forth in these permits. Potential still exists for construction activities to result in erosion or siltation. Therefore, Impacts would be significant during construction. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan**), which would reduce impacts to a less than significant level during construction. No impacts would occur during operations because treated wastewater would continue to be discharged to the Sacramento River. Therefore, the alternative would not alter the drainage patters of the Sacramento River or create additional erosion or siltation. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on erosion and siltation after the implementation of mitigation.

Mitigation. To minimize potentially significant impacts on erosion or siltation associated with construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-HYD-1** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

Significance after Mitigation. With the implementation of **MM-HYD-1**, impacts on erosion and siltation would be less than significant.

(b) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site (Less than Significant Impact with Mitigation Incorporated)

Construction of the Entler Avenue Hybrid Alternative would occur largely within the existing public ROW and below ground; and would only arise to the surface for parcel connections, at pump station locations within the Core and Extended Collection System areas, and at the Chico WPCP Connection. Disturbed areas would be restored to pre-construction conditions once construction is complete. Additional impervious surfaces are not proposed, and runoff conditions would be similar to existing conditions. There would be no additional runoff to a FEMA floodplain. As discussed, the Town will require that the contractor comply with SWRCB's CGP, which requires the preparation and implementation of a SWPPP. However, the potential for on- or off-site flooding still exists during construction and impacts would be considered significant. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan** and **MM-HYD-3: Flood Protection Plan),** which would reduce impacts to a less than significant level during construction.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on surface runoff and flooding after mitigation is incorporated.

Mitigation. To minimize potentially significant impacts on flooding associated with construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measures **MM-HYD-1** and **MM-HYD-3** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

MM-HYD-3: Flood Protection Plan (see Section 3.10, Hydrology and Water Quality, for description)

Significance after Mitigation. With the implementation of **MM-HYD-1** and **MM-HYD-3**, impacts on flooding on- or off-site would be less than significant.

(c) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff (Less than Significant Impact with Mitigation Incorporated)

As discussed in Impact HYD-3 (b), the Entler Avenue Hybrid Alternative would not increase the amount of surface water runoff in the study area, and polluted runoff during construction would be controlled through the implementation of a Construction SWPPP. Compliance with the CGP and Small MS4 Permit would help prevent runoff from nearby existing drainage systems. However, the potential for polluted runoff still exists during construction. Impacts would therefore be significant. The Entler Avenue Hybrid Alternative would implement the same mitigation measures as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan** and **MM-HYD-3: Flood Protection Plan),** which would reduce impacts to a less than significant level during construction.

Similar to the analysis for the Proposed Project, no impacts would occur during operations, and treated wastewater would continue to be discharged to the Sacramento River in accordance with NPDES permitting.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on runoff water and polluted runoff after mitigation is incorporated.

Mitigation. To minimize potentially significant impacts on polluted runoff associated with construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measures **MM-HYD-1** and **MM-HYD-3** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

MM-HYD-3: Flood Protection Plan (see Section 3.10, Hydrology and Water Quality, for description)

Significance after Mitigation. With the implementation of **MM-HYD-1** and **MM-HYD-3** , impacts on polluted runoff would be less than significant.

(d) Impede or redirect flood flows (Less than Significant Impact)

No impacts would occur during operations because treated wastewater would continue to be discharged to the Sacramento River. The Export Pipeline System would require work near waterbodies; however, construction would not occur within any waterbodies. The alternative would involve trenchless crossings using HDD methods at Butte Creek at depths of at least 20 feet below the creek bed. Waters within Butte Creek would therefore not be redirected or impeded. Additionally, compliance with applicable permits, impacts from impeding or redirecting flood flows would be less than significant, and no mitigation would be required. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on impeding and redirecting flows.

Mitigation. No mitigation required.

Impact HYD-4: In flood hazard zones, risk release of pollutants due to Project inundation (Less than Significant Impact with Mitigation Incorporated)

Most of the Entler Avenue Hybrid Alternative is located in a minimal flood hazard zone. Portions of the study area are also located within Moderate Flood Hazard Areas and Special Flood Hazard Areas (FEMA 2020, Butte County 2021e). The alternative would comply with Section 408 permitting requirements and would be designed in accordance with USACE standards. As discussed in Section 3.10.2, Regulatory Setting, Section 408 provides that USACE may grant permission for another party to alter a Civil Works project upon a determination that the alteration proposed will not be injurious to the public interest and will not impair the usefulness of the Civil Works project. Impacts on the Butte Creek Diversion Channel would be avoided under this alternative. However, because there is a possibility that the study area could experience flooding, this impact would be significant. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project

(**MM-HYD-3: Flood Protection Plan),** which would reduce impacts to a less than significant level during construction.

No impacts would occur during operations because treated wastewater would continue to be discharged to the Sacramento River. Therefore, impacts would be considered less than significant, and no mitigation is required. The level of impact would be the same as that for the Proposed Project Entler Avenue alignment because both the Proposed Project and the Entler Avenue Hybrid Alternative would result in less-than-significant impacts from being located within a flood zone after mitigation is incorporated.

Mitigation. To minimize potentially significant impacts from the release of pollutants due to Entler Avenue Hybrid Alternative inundation to a less than significant level, mitigation measure **MM-HYD-3** will be implemented.

MM-HYD-3: Flood Protection Plan (see Section 3.10, Hydrology and Water Quality, for description)

Significance after Mitigation. With the implementation of **MM-HYD-3**, impacts from the release of pollutants due to Entler Avenue Hybrid Alternative inundation would be less than significant.

Impact HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan (Less than Significant Impact with Mitigation Incorporated)

As discussed under Impact HYD-1, the Entler Avenue Hybrid Alternative would improve surface water and groundwater quality in the study area by implementing an improved sewer system connecting to the Chico WPCP. The alternative would align with the California Water Board's Strategic Plan Summary to increase water supplies and improve groundwater quality. Consistent with the Proposed Project, implementation of a Construction SWPPP and compliance with permitting requirements would protect water quality during construction.

The Entler Avenue Hybrid Alternative would not include the use of groundwater. As discussed under the Proposed Project, construction of the Export Pipeline System would not result in permanent reductions in groundwater levels adjacent to construction areas. Therefore, there would be no impact on a sustainable groundwater management plan or ordinance.

As discussed under Impact HYD-1, the Entler Avenue Hybrid Alternative would add an additional 0.5 mgd of wastewater to be treated at Chico WPCP and discharged to the Sacramento River through a submerged outfall diffuser regulated in accordance with NPDES Permit No. CA0079081 (Order No. R5-2016-0023). The additional 0.5 mgd of wastewater is within the permitted allowance. As such, there would be no impact on the *Water Quality Control Plan for the Central Valley Region*. However, there is potential that water quality impacts could occur during construction. Impacts would therefore be significant. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan),** which would reduce impacts to a less than significant level during construction**.**

The level of impact would be the same as that for the Proposed Project because the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in less than

significant impacts on a water quality control plan or sustainable groundwater management plan with mitigation incorporated, and groundwater and surface water quality would improve once operational.

Mitigation. To minimize potentially significant impacts on a water quality control plan or sustainable groundwater management plan associated with construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-HYD-1** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

Significance after Mitigation. With the implementation of **MM-HYD-1**, impacts on a water quality control plan or sustainable groundwater management plan would be less than significant.

5.5.9.3 Crouch Avenue Alternative

Impact HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (Less than Significant Impact with Mitigation Incorporated)

The impact analysis for the Crouch Avenue Alternative would be similar to the analysis for the Proposed Project. As discussed for the Proposed Project, the Crouch Avenue Alternative would improve surface and groundwater quality in the study area through the removal of septic systems and implementation of an improved sewer system. The Crouch Avenue Alternative would require trenchless crossings of Little Chico Creek. Launching and receiving pits used for trenchless crossings would be set back to avoid riparian vegetation, which would also minimize effects to surface water quality. Ground disturbance and work near waterbodies during implementation of the Export Pipeline System could impact water quality. Consistent with the Proposed Project, the Crouch Avenue Alternative would include implementation of a construction SWPPP which would require BMPs to minimize potential short-term increases in sediment transport caused by construction. The Crouch Avenue Alternative would also require regulatory permits from USACE (Section 404 and Section 408), the Regional Board (Section 401), and CDFW (Streambed Alteration Agreement). This alternative would also require a CGP and Small MS4 permit. Compliance with these permitting requirements would protect water quality during construction. However, there is still potential for adverse water quality impacts during construction. If implementation of the project were to cause adverse water quality impacts, this would result in a significant impact. The Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-1: Vehicle and Equipment Access and Fueling, MM-HYD-2: Construction Best Management Practices, MM-BIO-15: Frac-Out-Plan,** and **MM-HYD-1: Stormwater Management and Treatment Plan),** which would reduce impacts to a less than significant level during construction.

In the event of a sewer main break during operations, the Town Wastewater Department will develop an Operations Response Plan as part of its overall operations and maintenance processes that will provide direction for handling such an occurrence. The Department will also have on-hand the equipment and spare parts necessary to rapidly implement a repair.

The Crouch Avenue Alternative would add an additional 0.5 mgd of wastewater to be treated at Chico WPCP and discharged to the Sacramento River through a submerged outfall diffuser regulated in accordance with NPDES Permit No. CA0079081 (Order No. R5-2016-0023). The additional 0.5 mgd of wastewater is within the permitted allowance.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in beneficial water quality impacts once operational and would require mitigation to reduce impacts to a less than significant level during construction.

Mitigation. To minimize potentially significant impacts on water quality associated with construction of the Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HAZ-1**, **MM-HYD-1**, **MM-HYD-2**, and **MM-BIO-15** will be implemented.

MM-HAZ-1: Vehicle and Equipment Access and Fueling (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

MM-HYD-2: Construction Best Management Practices (see Section 3.10, Hydrology and Water Quality, for description)

MM-BIO-15: Frac-Out-Plan (see Section 3.4 Biological Resources, for description).

Significance after Mitigation. With the implementation of **MM-HAZ-1**, **MM-HYD-1**, **MM-HYD-2**, and **MM-BIO-15**, impacts to water quality would be less than significant .

Impact HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would not involve the use of groundwater during construction; however, groundwater could be encountered during ground disturbance for construction of the Export Pipeline System. This alternative would require pit excavations for trenchless crossings, and any water encountered during excavations would be placed into a settling tank before being trucked to a nearby sewer main for discharge. Any localized lowering of the groundwater table as a result of excavations and trenchless crossings would be anticipated to recover quickly and would not cause a net deficit in aquifer volume or a lowering of the groundwater table. Additionally, this alternative would not introduce impervious surfaces that would impede groundwater recharge because the right of way or other area disturbed during construction would be restored. Impacts on groundwater would be less than significant, and no mitigation would be required. The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on groundwater supplies or groundwater recharge.

Mitigation. No mitigation required.

Impact HYD-3: 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:

(a) Result in substantial erosion or siltation on- or off-site (Less than Significant Impact with Mitigation Incorporated)

This alternative would require trenchless crossings under Little Chico Creek. Temporary water quality impacts could result from sediment discharge from areas of disturbance and construction near water resources. The crossings would be required to have a minimum depth of 20 feet below the waterbody with a launching and receiving pit on either end of the crossing. As discussed in Section 2.5.2 Export Pipeline System, and shown in Figure 2-12 Typical HDD Installation, there would be an approximate 10- by 5- foot launching and receiving pit and additional protected space on either end of the waterbody.

Prior to construction and ground disturbing activities, Town would require that the contractor comply with the State Water Resources Control Board CGP, which requires the preparation and implementation of a SWPPP. In addition to the CGP, the alternative would require a Small MS4 Permit. The alternative would comply with mandates set forth in these permits. Potential still exists for construction activities to result in erosion or siltation. Therefore, Impacts would be significant during construction. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan),** which would reduce impacts to a less than significant level during construction.

No impacts would occur during operations because treated wastewater would continue to be discharged to the Sacramento River. The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on erosion and siltation after the implementation of mitigation.

Mitigation. To minimize potentially significant impacts on erosion or siltation associated with construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HYD-1** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

Significance after Mitigation. With the implementation of **MM-HYD-1**, impacts on erosion and siltation would be less than significant.

(b) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site (Less than Significant Impact with Mitigation Incorporated)

Construction of the Crouch Avenue Alternative would occur largely within the existing public ROW and below ground; and would only arise to the surface for parcel connections, at pump station locations within the Core and Extended Collection System areas, and at the Chico WPCP Connection. Disturbed

areas would be restored to pre-construction conditions once construction is complete. Additional impervious surfaces are not proposed, and runoff conditions would be similar to existing conditions. There would be no additional runoff to a FEMA floodplain. As discussed, the Town will require that the contractor comply with SWRCB's CGP, which requires the preparation and implementation of a SWPPP. However, the potential for on- or off-site flooding still exists during construction and impacts would be considered significant. The Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan** and **MM-HYD-3: Flood Protection Plan),** which would reduce impacts to a less than significant level during construction.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on surface runoff and flooding after mitigation is incorporated.

Mitigation. To minimize potentially significant impacts on flooding associated with construction of the Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HYD-1** and **MM-HYD-3** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

MM-HYD-3: Flood Protection Plan (see Section 3.10, Hydrology and Water Quality, for description)**.**

Significance after mitigation. With the implementation of **MM-HYD-1** and **MM-HYD-3**, impacts on flooding on- or off-site would be less than significant.

(c) **Create or contribute runoff water that would exceed the capacity of existing or planned storm water** drainage systems or provide substantial additional sources of polluted runoff (Less than Significant Impact with Mitigation Incorporated)

As discussed in Impact HYD-3 (b), the Crouch Avenue Alternative would not increase the amount of surface water runoff in the study area. The alternative would not introduce new impervious surfaces because the ROW or other area disturbed during construction would be restored. Polluted runoff during construction would be controlled through the implementation of a Construction SWPPP. Compliance with the CGP and Small MS4 Permit would help prevent runoff from nearby existing drainage systems. However, the potential for polluted runoff still exists during construction. Impacts would therefore be significant. The Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan** and **MM-HYD-3: Flood Protection Plan),** which would reduce impacts to a less than significant level during construction.

Similar to the analysis for the Proposed Project, no impacts would occur during operations, and treated wastewater would continue to be discharged to the Sacramento River in accordance with NPDES permitting.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on runoff water and polluted runoff after mitigation is incorporated.

Mitigation. To minimize potentially significant impacts on polluted runoff associated with construction of the Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HYD-1** and **MM-HYD-3** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

MM-HYD-3: Flood Protection Plan (see Section 3.10, Hydrology and Water Quality, for description)**.**

Significance after Mitigation. With the implementation of **MM-HYD-1** and **MM-HYD-3**, impacts on polluted runoff would be less than significant.

(d) Impede or redirect flood flows (Less than Significant Impact)

No impacts would occur during operations because treated wastewater would continue to be discharged to the Sacramento River. The Export Pipeline System would require work near waterbodies; however, construction would not occur within any waterbodies. The alternative would involve trenchless crossings using HDD methods at Little Chico Creek at depths of at least 20 feet below the creek bed. Waters within Little Chico Creek would therefore not be redirected or impeded. Levees located along Little Chico Creek are locally constructed, operated and maintained (USACE 2016). Additionally, compliance with applicable permits, impacts from impeding or redirecting flood flows would be less than significant, and no mitigation would be required. The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on impeding and redirecting flows.

Mitigation. No mitigation required.

Impact HYD-4: In flood hazard zones, risk release of pollutants due to Project inundation (Less than Significant Impact with Mitigation Incorporated)

Most of the Crouch Avenue Alternative is located in a minimal flood hazard zone. Portions of the study area are also located within Moderate Flood Hazard Areas and Special Flood Hazard Areas (FEMA 2020, Butte County 2021e). The alternative would comply with Section 408 permitting requirements and would be designed in accordance with USACE standards. Impacts on the Butte Creek Diversion Channel would be avoided under this alternative. Levees located along Little Chico Creek are locally constructed, operated and maintained (USACE 2016). However, because there is a possibility that the study area could experience flooding, this impact would be significant. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HYD-3: Flood Protection Plan),** which would reduce impacts to a less than significant level during construction.

No impacts would occur during operations because treated wastewater would continue to be discharged to the Sacramento River. Therefore, impacts would be considered less than significant, and

no mitigation is required. The level of impact would be the same as that for the Proposed Project Entler Avenue alignment because both the Proposed Project and the Crouch Avenue Alternative would result in less-than-significant impacts from being located within a flood zone after mitigation is incorporated.

Mitigation. To minimize potentially significant impacts from the release of pollutants due to Crouch Avenue Alternative inundation to a less than significant level, mitigation measure **MM-HYD-3** will be implemented.

MM-HYD-3: Flood Protection Plan (see Section 3.10, Hydrology and Water Quality, for description)

Significance after Mitigation. With the implementation of **MM-HYD-3**, impacts from the release of pollutants due to Crouch Avenue Alternative inundation would be less than significant.

Impact HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan (Less than Significant Impact with Mitigation Incorporated)

As discussed under Impact HYD-1, the Crouch Avenue Alternative would improve surface water and groundwater quality in the study area by implementing an improved sewer system connecting to the Chico WPCP. The alternative would align with the California Water Board's Strategic Plan Summary to increase water supplies and improve groundwater quality. Consistent with the Proposed Project, implementation of a Construction SWPPP and compliance with permitting requirements would protect water quality during construction.

The Crouch Avenue Alternative would not include the use of groundwater. As discussed under the Proposed Project, construction of the Export Pipeline System would not result in permanent reductions in groundwater levels adjacent to construction areas. Therefore, there would be no impact on a sustainable groundwater management plan or ordinance.

As discussed under Impact HYD-1, the Crouch Avenue Alternative would add an additional 0.5 mgd of wastewater to be treated at Chico WPCP and discharged to the Sacramento River through a submerged outfall diffuser regulated in accordance with NPDES Permit No. CA0079081 (Order No. R5-2016-0023). The additional 0.5 mgd of wastewater is within the permitted allowance. As such, there would be no impact on the *Water Quality Control Plan for the Central Valley Region*. However, there is potential that water quality impacts could occur during construction. Impacts would therefore be significant. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan),** which would reduce impacts to a less than significant level during construction.

The level of impact would be the same as that for the Proposed Project because the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less than significant impacts on a water quality control plan or sustainable groundwater management plan with mitigation incorporated, and groundwater and surface water quality would improve once operational.

Mitigation. To minimize potentially significant impacts on a water quality control plan or sustainable groundwater management plan associated with construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HYD-1** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description).

Significance after Mitigation. With the implementation of **MM-HYD-1**, impacts on a water quality control plan or sustainable groundwater management plan would be less than significant.

5.5.9.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality (Less than Significant Impact with Mitigation Incorporated)

The impact analysis for the Entler Avenue Hybrid and Crouch Avenue Alternative would be similar to the analysis for the Proposed Project. As discussed for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would improve surface and groundwater quality in the study area through the removal of septic systems and implementation of an improved sewer system. The Entler Avenue Hybrid and Crouch Avenue Alternative would require trenchless crossings of Little Chico Creek and Butte Creek. Launching and receiving pits used for trenchless crossings would be set back to avoid riparian vegetation, which would also minimize effects to surface water quality. Ground disturbance and work near waterbodies during implementation of the Export Pipeline System could impact water quality. Consistent with the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would include implementation of a construction SWPPP which would require BMPs to minimize potential short-term increases in sediment transport caused by construction. The Entler Avenue Hybrid and Crouch Avenue Alternative would also require regulatory permits from USACE (Section 404 and Section 408), the Regional Board (Section 401), and CDFW (Streambed Alteration Agreement). This alternative would also require a CGP and Small MS4 permit. Compliance with these permitting requirements would protect water quality during construction. However, there is still potential for adverse water quality impacts during construction. If implementation of the project were to cause adverse water quality impacts, this would result in a significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-1: Vehicle and Equipment Access and Fueling, MM-HYD-1: Stormwater Management and Treatment Plan, MM-HYD-2: Construction Best Management Practices,** and **MM-BIO-15: Frac-Out-Plan),** which would reduce impacts to a less than significant level during construction.

In the event of a sewer main break during operations, the Town Wastewater Department will develop an Operations Response Plan as part of its overall operations and maintenance processes that will provide direction for handling such an occurrence. The Department will also have on-hand the equipment and spare parts necessary to rapidly implement a repair.

The Entler Avenue Hybrid and Crouch Avenue Alternative would add an additional 0.5 mgd of wastewater to be treated at Chico WPCP and discharged to the Sacramento River through a submerged outfall diffuser regulated in accordance with NPDES Permit No. CA0079081 (Order No. R5-2016-0023). The additional 0.5 mgd of wastewater is within the permitted allowance. Operations and maintenance would therefore result in no impact.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in beneficial water quality impacts once operational and would require mitigation to reduce impacts to a less than significant level during construction.

Mitigation. To minimize potentially significant impacts on water quality associated with construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HAZ-1**, **MM-HYD-1**, **MM-HYD-2**, and **MM-BIO-15** will be implemented.

MM-HAZ-1: Vehicle and Equipment Access and Fueling (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

MM-HYD-2: Construction Best Management Practices (see Section 3.10, Hydrology and Water Quality, for description)

MM-BIO-15: Frac-Out-Plan (see Section 3.4 Biological Resources, for description)**.**

Significance after Mitigation. With the implementation of **MM-HAZ-1**, **MM-HYD-1**, **MM-HYD-2**, and **MM-BIO-15**, impacts to water quality would be less than significant.

Impact HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would not involve the use of groundwater during construction; however, groundwater could be encountered during ground disturbance for construction of the Export Pipeline System. This alternative would require pit excavations for trenchless crossings, and any water encountered during excavations would be placed into a settling tank before being trucked to a nearby sewer main for discharge. Any localized lowering of the groundwater table as a result of excavations and trenchless crossings would be anticipated to recover quickly and would not cause a net deficit in aquifer volume or a lowering of the groundwater table. Additionally, this alternative would not introduce impervious surfaces that would impede groundwater recharge because the right of way or other area disturbed during construction would be restored. Impacts on groundwater would be less than significant, and no mitigation would be required. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on groundwater supplies or groundwater recharge.

Mitigation. No mitigation required.

Impact HYD-3: 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:

(a) Result in substantial erosion or siltation on- or off-site (Less than Significant Impact with Mitigation Incorporated)

This alternative would require trenchless crossings under Little Chico Creek and Butte Creek. Temporary water quality impacts could result from sediment discharge from areas of disturbance and construction near water resources. As discussed in Section 2.5.2 Export Pipeline System, and shown in Figure 2-12 Typical HDD Installation, there would be an approximate 10- by 5- foot launching and receiving pit and additional protected space on either end of the waterbody.

Prior to construction and ground disturbing activities, Town would require that the contractor comply with the State Water Resources Control Board CGP, which requires the preparation and implementation of a SWPPP. In addition to the CGP, the alternative would require a Small MS4 Permit. The alternative would comply with mandates set forth in these permits. Potential still exists for construction activities to result in erosion or siltation. Therefore, Impacts would be significant during construction. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan),** which would reduce impacts to a less than significant level during construction.

No impacts would occur during operations because treated wastewater would continue to be discharged to the Sacramento River. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on erosion and siltation after the implementation of mitigation.

Mitigation. To minimize potentially significant impacts on erosion or siltation associated with construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HYD-1** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

Significance after Mitigation. With the implementation of **MM-HYD-1**, impacts on erosion and siltation would be less than significant.

(b) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site (Less than Significant Impact with Mitigation Incorporated)

Construction of the Entler Avenue Hybrid and Crouch Avenue Alternative would occur largely within the existing public ROW and below ground; and would only arise to the surface for parcel connections, at pump station locations within the Core and Extended Collection System areas, and at the Chico WPCP Connection. Disturbed areas would be restored to pre-construction conditions once construction is complete. Additional impervious surfaces are not proposed, and runoff conditions would be similar to

existing conditions. There would be no additional runoff to a FEMA floodplain. As discussed, the Town will require that the contractor comply with SWRCB's CGP, which requires the preparation and implementation of a SWPPP. However, the potential for on- or off-site flooding still exists during construction and impacts would be considered significant. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan** and **MM-HYD-3: Flood Protection Plan),** which would reduce impacts to a less than significant level during construction.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on surface runoff and flooding after mitigation is incorporated.

Mitigation. To minimize potentially significant impacts on flooding associated with construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HYD-1** and **MM-HYD-3** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

MM-HYD-3: Flood Protection Plan (see Section 3.10, Hydrology and Water Quality, for description)**.**

Significance after mitigation. With the implementation of **MM-HYD-1** and **MM-HYD-3**, impacts on flooding on- or off-site would be less than significant.

(c) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff (Less than Significant Impact with Mitigation Incorporated)

As discussed in Impact HYD-3 (b), the Entler Avenue Hybrid and Crouch Avenue Alternative would not increase the amount of surface water runoff in the study area. The alternative would not introduce new impervious surfaces because the ROW or other area disturbed during construction would be restored. Polluted runoff during construction would be controlled through the implementation of a Construction SWPPP. Compliance with the CGP and Small MS4 Permit would help prevent runoff from nearby existing drainage systems. However, the potential for polluted runoff still exists during construction. Impacts would therefore be significant. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan** and **MM-HYD-3: Flood Protection Plan),** which would reduce impacts to a less than significant level during construction

Similar to the analysis for the Proposed Project, no impacts would occur during operations, and treated wastewater would continue to be discharged to the Sacramento River in accordance with NPDES permitting.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment

would result in less-than-significant impacts on runoff water and polluted runoff after mitigation is incorporated.

Mitigation. To minimize potentially significant impacts on polluted runoff associated with construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HYD-1** and **MM-HYD-3** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

MM-HYD-3: Flood Protection Plan (see Section 3.10, Hydrology and Water Quality, for description)**.**

Significance after Mitigation. With the implementation of **MM-HYD-1** and **MM-HYD-3** , impacts on polluted runoff would be less than significant.

(d) Impede or redirect flood flows (Less than Significant Impact)

No impacts would occur during operations because treated wastewater would continue to be discharged to the Sacramento River. The Export Pipeline System would require work near waterbodies; however, construction would not occur within any waterbodies. Levees traverse the study area along Little Chico Creek, which is locally operated and maintained, and Butte Creek Diversion Channel, which is a federal levee. The alternative would involve trenchless crossings using HDD methods at Butte Creek and Little Chico Creek at depths of at least 20 feet below the creek bed. Waters within Butte Creek and Little Chico Creek would therefore not be redirected or impeded. Additionally, compliance with applicable permits, impacts from impeding or redirecting flood flows would be less than significant, and no mitigation would be required. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on impeding and redirecting flows.

Mitigation. No mitigation required.

Impact HYD-4: In flood hazard zones, risk release of pollutants due to Project inundation (Less than Significant Impact with Mitigation Incorporated)

Most of the Crouch Avenue Alternative is located in a minimal flood hazard zone. Portions of the study area are also located within Moderate Flood Hazard Areas and Special Flood Hazard Areas (FEMA 2020, Butte County 2021e). Levees traverse the study area along Little Chico Creek, which is locally operated and maintained, and Butte Creek Diversion Channel, which is a federal levee. The alternative would comply with Section 408 permitting requirements and would be designed in accordance with USACE standards. Impacts on the Butte Creek Diversion Channel would be avoided under this alternative. However, because there is a possibility that the study area could experience flooding, this impact would be significant. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HYD-3: Flood Protection Plan),** which would reduce impacts to a less than significant level during construction.

No impacts would occur during operations because treated wastewater would continue to be discharged to the Sacramento River. Therefore, impacts would be considered less than significant, and no mitigation is required. The level of impact would be the same as that for the Proposed Project Entler Avenue alignment because both the Proposed Project and the Crouch Avenue Alternative would result in less-than-significant impacts from being located within a flood zone after mitigation is incorporated.

Mitigation. To minimize potentially significant impacts from the release of pollutants due to Entler Avenue Hybrid and Crouch Avenue Alternative inundation to a less than significant level, mitigation measure **MM-HYD-3** will be implemented.

MM-HYD-3: Flood Protection Plan (see Section 3.10, Hydrology and Water Quality, for description)

Significance after Mitigation. With the implementation of **MM-HYD-3**, impacts from the release of pollutants due to Entler Avenue Hybrid and Crouch Avenue Alternative inundation would be less than significant.

Impact HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan (Less than Significant Impact with Mitigation Incorporated)

As discussed under Impact HYD-1, the Entler Avenue Hybrid and Crouch Avenue Alternative would improve surface water and groundwater quality in the study area by implementing an improved sewer system connecting to the Chico WPCP. The alternative would align with the California Water Board's Strategic Plan Summary to increase water supplies and improve groundwater quality. Consistent with the Proposed Project, implementation of a Construction SWPPP and compliance with permitting requirements would protect water quality during construction.

The Entler Avenue Hybrid and Crouch Avenue Alternative would not include the use of groundwater. As discussed under the Proposed Project, construction of the Export Pipeline System would not result in permanent reductions in groundwater levels adjacent to construction areas. Therefore, there would be no impact on a sustainable groundwater management plan or ordinance. However, there is potential that water quality impacts could occur during construction. Impacts would therefore be significant. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan),** which would reduce impacts to a less than significant level during construction.

As discussed under Impact HYD-1, the Entler Avenue Hybrid and Crouch Avenue Alternative would add an additional 0.5 mgd of wastewater to be treated at Chico WPCP and discharged to the Sacramento River through a submerged outfall diffuser regulated in accordance with NPDES Permit No. CA0079081 (Order No. R5-2016-0023). The additional 0.5 mgd of wastewater is within the permitted allowance. As such, there would be no impact on the *Water Quality Control Plan for the Central Valley Region*.

The level of impact would be the same as that for the Proposed Project because the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less than significant impacts on a water quality control plan or sustainable groundwater management

plan with mitigation incorporated, and groundwater and surface water quality would improve once operational.

Mitigation. To minimize potentially significant impacts on a water quality control plan or sustainable groundwater management plan associated with construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HYD-1** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

Significance after Mitigation. With the implementation of **MM-HYD-1**, impacts on a water quality control plan or sustainable groundwater management plan would be less than significant.

5.5.9.5 Alternatives Impact Summary

Table 5.5-9 summarizes the hydrology and water quality impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-9. Alternatives Impacts Summary for Hydrology and Water Quality

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	S/M	SU (+)	S/M (=)	S/M (=)	S/M (=)
Impact HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact HYD-3 (a): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on or off-site	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HYD-3 (b): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HYD-3 (c): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff					
Impact HYD-3 (d): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact HYD-4: In flood hazard zones, risk release of pollutants due to Project inundation	S/M	SU (+)	S/M (=)	S/M (=)	S/M (=)
Impact HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	S/M	SU (+)	S/M (=)	S/M (=)	S/M (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.10 Land Use and Planning

5.5.10.1 No Project Alternative

Impact LU-1: Physically divide an established community (No Impact)

Under the No Project Alternative, there would be no new construction and no division of established communities; therefore, there would be no impact on land use. The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would divide an established community.

Mitigation. No mitigation required.

Impact LU-2: Cause any 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 (No Impact)

Under the No Project Alternative, all land use designation would remain the same, and there would be no impact on any existing land use conditions. There would be no conflict with land use plan, policy, or regulation. The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would conflict with any land use plan, policy, or regulation.

Mitigation. No mitigation required.

5.5.10.2 Entler Avenue Hybrid Alternative

Impact LU-1: Physically divide an established community (No Impact)

According to the *Town of Paradise 2022-2030 Housing Element Update*, a Sewer Service Overlay zone was established to allow increased densities up to 30 dwelling units per acre in the sewer service area (Town of Paradise 2022a). The Entler Avenue Hybrid Alternative is consistent with the goals and policies in the *Town of Paradise 2022-2030 Housing Element Update* as it would serve most businesses in the Town of Paradise and provide for future development of more multi-family residences, which is currently limited because of septic system constraints. Further, the Entler Avenue Hybrid Alternative assists the Town in meeting the goals presented in the *Town of Paradise 2022–2030 Housing Element* Update as it provides the sewage capacity for the increase in densities per acre to occur.

The Entler Avenue Hybrid Alternative would occur within the same designated sewer service area and provide the same connection to the Chico WPCP as the Proposed Project. All construction and construction methodology would also be the same as the Proposed Project in that the Entler Avenue Hybrid Alternative would primarily be constructed below the surface within the public ROW and would only arise to the surface for parcel connections, at pump station locations within the Core and Extended Collection System areas, and at the Chico WPCP Connection. All exposed ground would be restored back to existing conditions. Under this alternative, the export pipeline would traverse private property and require a permanent easement from the property owners. Above ground structures including pump stations, the transition chamber and the flow control and metering structure would also be in the public ROW and would not segment or divide an established community.

Therefore, there would be no physical division of an established community, resulting in no impact. The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would divide an established community.

Mitigation. No mitigation required.

Impact LU-2: Cause any 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 (No Impact)

The Town of Paradise will be updating its General Plan in response to the 2018 Camp Fire, and will include updates to its land use, circulation, conservation, noise, open space, and air quality elements. This is anticipated to be a minimum 3-year process (S. Hartman, personal communication, November 19, 2021). The Entler Avenue Hybrid Alternative is also consistent with the goals and policies planned to be included in the *Town of Paradise General Plan* updates (S. Hartman, personal communication, November 19, 2021). Table 3.11-1 in Section 3.11, Land Use and Planning, provides a consistency analysis of applicable land use goals, policies, or regulations adopted for the purpose of avoiding or mitigating environmental effects. Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would not conflict with any land use plan, policy, or regulation. Therefore, there would be no impact. The level of impact would be the same as that for the Proposed Project

because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would conflict with any land use plan, policy, or regulation.

Mitigation. No mitigation required.

5.5.10.3 Crouch Avenue Alternative

Impact LU-1: Physically divide an established community (No Impact)

According to the *Town of Paradise 2022-2030 Housing Element Update*, a Sewer Service Overlay zone was established to allow increased densities up to 30 dwelling units per acre in the sewer service area (Town of Paradise 2022a). The Crouch Avenue Alternative is consistent with the goals and policies in the *Town of Paradise 2022-2030 Housing Element Update* as it would serve most businesses in the Town of Paradise and provide for future development of more multi-family residences, which is currently limited because of septic system constraints. Further, the Crouch Avenue Alternative assists the Town in meeting the goals presented in the *Town of Paradise 2022–2030 Housing Element* Update as it provides the sewage capacity for the increase in densities per acre to occur.

The Crouch Avenue Alternative would occur within the same designated sewer service area and provide the same connection to the Chico WPCP as the Proposed Project. All construction and construction methodology would also be the same as the Proposed Project in that the Crouch Avenue Alternative would primarily be constructed below the surface within the public ROW and would only arise to the surface for parcel connections, at pump station locations within the Core and Extended Collection System areas, and at the Chico WPCP Connection. All exposed ground would be restored back to existing conditions. The export pipeline alignment under this alternative would involve a trenchless crossing at Little Chico Creek, below ground, which would not cause any physical disruption on the existing land or land uses.

Therefore, there would be no physical division of an established community, resulting in no impact. The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would divide an established community.

Mitigation. No mitigation required.

Impact LU-2: Cause any 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 (No Impact)

The Town of Paradise will be updating its General Plan in response to the 2018 Camp Fire, and will include updates to its land use, circulation, conservation, noise, open space, and air quality elements. This is anticipated to be a minimum 3-year process (S. Hartman, personal communication, November 19, 2021). The Crouch Avenue Alternative is also consistent with the goals and policies planned to be included in the *Town of Paradise General Plan* updates (S. Hartman, personal communication, November 19, 2021). Table 3.11-1 in Section 3.11, Land Use and Planning, provides a consistency analysis of applicable land use goals, policies, or regulations adopted for the purpose of avoiding or mitigating environmental effects. Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would not conflict with any land use plan, policy, or regulation. Therefore, there

would be no impact. The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would conflict with any land use plan, policy, or regulation.

Mitigation. No mitigation required.

5.5.10.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact LU-1: Physically divide an established community (No Impact)

According to the *Town of Paradise 2022-2030 Housing Element Update*, a Sewer Service Overlay zone was established to allow increased densities up to 30 dwelling units per acre in the sewer service area (Town of Paradise 2022a). The Entler Avenue Hybrid and Crouch Avenue Alternative is consistent with the goals and policies in the *Town of Paradise 2022-2030 Housing Element Update* as it would serve most businesses in the Town of Paradise and provide for future development of more multi-family residences, which is currently limited because of septic system constraints. Further, the Entler Avenue Hybrid and Crouch Avenue Alternative assists the Town in meeting the goals presented in the *Town of Paradise 2022–2030 Housing Element* Update as it provides the sewage capacity for the increase in densities per acre to occur.

The Entler Avenue Hybrid and Crouch Avenue Alternative would occur within the same designated sewer service area and provide the same connection to the Chico WPCP as the Proposed Project. All construction and construction methodology would also be the same as the Proposed Project in that the Entler Avenue Hybrid and Crouch Avenue Alternative would primarily be constructed below the surface within the public ROW and would only arise to the surface for parcel connections, at pump station locations within the Core and Extended Collection System areas, and at the Chico WPCP Connection. All exposed ground would be restored back to existing conditions. Under this alternative, the export pipeline would traverse private property and require a permanent easement from the property owners. The export pipeline alignment under this alternative would also involve trenchless crossings at Little Chico Creek and Butte Creek, below ground, which would not cause any physical disruption on the existing land or land uses.

Therefore, there would be no physical division of an established community, resulting in no impact. The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project alignment would divide an established community.

Mitigation. No mitigation required.

Impact LU-2: Cause any 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 (No Impact)

The Town of Paradise will be updating its General Plan in response to the 2018 Camp Fire, and will include updates to its land use, circulation, conservation, noise, open space, and air quality elements. This is anticipated to be a minimum 3-year process (S. Hartman, personal communication, November 19, 2021). The Entler Avenue Hybrid and Crouch Avenue Alternative is also consistent with the goals

and policies planned to be included in the *Town of Paradise General Plan* updates (S. Hartman, personal communication, November 19, 2021). Table 3.11-1 in Section 3.11, Land Use and Planning, provides a consistency analysis of applicable land use goals, policies, or regulations adopted for the purpose of avoiding or mitigating environmental effects. Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would not conflict with any land use plan, policy, or regulation. Therefore, there would be no impact. The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would conflict with any land use plan, policy, or regulation.

Mitigation. No mitigation required.

5.5.10.5 Alternatives Impact Summary

Table 5.5-10 summarizes the land use and planning impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-10. Alternatives Impacts Summary for Land Use and Planning

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact LU-1: Physically divide an established community	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact LU-2: Cause any 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	NI	NI (=)	NI (=)	NI (=)	NI (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.11 Noise and Groundborne Vibration

5.5.11.1 No Project Alternative

Impact NSE-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies (No Impact)

Under the No Project Alternative, existing conditions would remain the same. No construction would occur; therefore, no noise would be generated. The No Project Alternative would not result in a temporary or permanent increase in ambient noise levels near the Project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies. As a result, no impact would occur. The level of impact would be less than that for the Proposed Project because the Proposed Project would generate a temporary increase in ambient noise, resulting in less-than-significant impacts with mitigation incorporated.

Mitigation. No mitigation required.

Impact NSE-2: Generate excessive groundborne vibration or groundborne noise levels (No Impact)

Under the No Project Alternative, existing conditions would remain the same. No construction would occur; therefore, no groundborne vibration would be generated. The No Project Alternative would not generate excessive groundborne vibration or groundborne noise levels, resulting in no impact. The level of impact would be less than that for the Proposed Project because the Proposed Project would temporarily generate groundborne vibration or groundborne noise levels during construction, resulting in a less-than-significant impact with mitigation incorporated.

Mitigation. No mitigation required.

Impact NSE-3: Be located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels (No Impact)

Under the No Project Alternative, existing conditions would remain the same. No construction would occur; therefore, no noise would be generated. Therefore, the No Project Alternative would not expose people residing or working in the Project area to excessive noise levels, resulting in no impact. The level of impact would be less than that for the Proposed Project because the Proposed Project is located within 2 miles of a private airport and impacts from the Proposed Project would be less than significant.

Mitigation. No mitigation required.

5.5.11.2 Entler Avenue Hybrid Alternative

Impact NSE-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies (Less than Significant Impact with Mitigation Incorporated)

The Entler Avenue Hybrid Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.12, Noise and Groundborne Vibration. Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would generate noise during construction. During construction, the Entler Avenue Hybrid Alternative would require use of heavy construction equipment that generate noise levels of up to 85 dBA at 50 feet from the equipment. The closest sensitive receptors to the Entler Avenue Hybrid Alternative are residential dwelling units along Entler Avenue, located approximately 50 feet away. Thus, the nearest sensitive receptors to this alternative would be exposed to noise levels of up to 85 dBA from construction equipment. Noise levels from the Entler Avenue Hybrid Alternative would temporarily exceed the daytime noise limits within the applicable jurisdictions during construction, resulting in a significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-NSE-1: Minimize Construction Noise**), which would reduce impacts on noise levels during construction to less than significant. Noise levels during operation and maintenance activities would be minimal and

immeasurable due to the infrequency of these activities. Therefore, no impacts on noise would occur during operation and maintenance of the Entler Avenue Hybrid Alternative.

The level of impact would be the same as that for the Proposed Project because sensitive receptors are located at the same distance (50 feet) from both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment. Therefore, both the Proposed Project and the Entler Avenue Hybrid Alternative would result in a less-than-significant impact with mitigation incorporated on this criterion.

Mitigation. To minimize potentially significant noise impacts during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-NSE-1** will be implemented.

MM-NSE-1: Minimize Construction Noise (see Section 3.12, Noise and Groundborne Vibration, for description)

Significance after Mitigation. With the implementation of **MM-NSE-1**, noise impacts during construction would be less than significant.

Impact NSE-2: Generate excessive groundborne vibration or groundborne noise levels (Less than Significant Impact with Mitigation Incorporated)

The Entler Avenue Hybrid Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.12, Noise and Groundborne Vibration. Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would generate groundborne vibration during construction. The closest sensitive receptors to the Entler Avenue Hybrid Alternative are residential dwelling units along Entler Avenue, located approximately 50 feet away. Similar to the Proposed Project, the highest reference PPV at 25 feet from construction equipment for this alternative would be 0.21 in/sec. Construction vibration related to building damage is assessed using the following equation: $PPV_{Equipment} = PPV_{Ref} (25/D)^{1.5}$. At 50 feet, construction vibration levels from the Entler Avenue Hybrid Alternative would be 0.07 in/sec. This level is much lower than the 0.12 in/sec threshold for buildings extremely susceptible to vibration damage. Similar to the Proposed Project, the highest reference L_V at 25 feet from construction equipment for this alternative would be 94 VdB. Annoyance or interference associated with vibration-sensitive activities is assessed using the following equation: $L_{V,distance} = L_{V,reference} – 30 \log (D/25)$. At 50 feet, the groundborne vibration level from the Entler Avenue Hybrid Alternative would be 85 VdB. This level exceeds the daytime annoyance threshold of 78 VdB for residential uses, resulting in a significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-NSE-1: Minimize Construction Noise**), which would reduce impacts related to groundborne vibration during construction to less than significant. Operation and maintenance activities do not include the use of vibration-generating equipment. Therefore, no impacts on groundborne vibration would occur during operation and maintenance of the Entler Avenue Hybrid Alternative.

The level of impact would be the same as that for the Proposed Project because sensitive receptors are located at the same distance (50 feet) from both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment.

Mitigation. To minimize potentially significant groundborne vibration impacts during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-NSE-1** will be implemented.

MM-NSE-1: Minimize Construction Noise (see Section 3.12, Noise and Groundborne Vibration, for description)

Significance after Mitigation. With the implementation of **MM-NSE-1**, groundborne vibration impacts during construction would be less than significant.

Impact NSE-3: Be located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels (No Impact)

The nearest airport to the Entler Avenue Hybrid Alternative is the privately owned Ranchaero Airport, which is located approximately 4.1 miles away. The Entler Avenue Hybrid Alternative is not located within an airport land use plan or within 2 miles of a public or private airport. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would result in no impacts from being located in the vicinity of an airport.

The level of impact would be less than that for the Proposed Project because the Proposed Project Entler Avenue alignment is located within 2 miles of a private airport, resulting in a less than significant impact.

Mitigation. No mitigation required.

5.5.11.3 Crouch Avenue Alternative

Impact NSE-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies (Less than Significant Impact with Mitigation Incorporated)

The Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.12, Noise and Groundborne Vibration. Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would generate noise during construction. During construction, the Crouch Avenue Alternative would require use of heavy construction equipment that generate noise levels of up to 85 dBA at 50 feet from the equipment. The closest sensitive receptors to the Crouch Avenue Alternative are residential dwelling units along Crouch Avenue, located approximately 60 feet away. Construction equipment noise levels decrease by approximately 6 dBA per doubling of distance from the source. Thus, the nearest sensitive receptors to this alternative would be exposed to noise levels of up to 83 dBA from construction equipment. Noise levels from the Crouch Avenue Alternative would temporarily exceed the daytime noise limits within the applicable jurisdictions during construction, resulting in a significant impact. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-NSE-1: Minimize Construction Noise**), which would reduce impacts on noise levels during construction to less than significant. Noise levels during operation and maintenance activities would be minimal and immeasurable due to the

infrequency of these activities. Therefore, no impacts on noise would occur during operation and maintenance of the Crouch Avenue Alternative.

The level of impact would be the same as that for the Proposed Project, except that sensitive receptors are located father away from the Crouch Avenue Alternative (60 feet) compared to the Proposed Project (50 feet). Therefore, impacts would be considered slightly less for the Crouch Avenue Alternative when compared to the Proposed Project Entler Avenue alignment under this criterion.

Mitigation. To minimize potentially significant noise impacts during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-NSE-1** will be implemented.

MM-NSE-1: Minimize Construction Noise (see Section 3.12, Noise and Groundborne Vibration, for description)

Significance after Mitigation. With the implementation of **MM-NSE-1**, noise impacts during construction would be less than significant.

Impact NSE-2: Generate excessive groundborne vibration or groundborne noise levels (Less than Significant Impact with Mitigation Incorporated)

The Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.12, Noise and Groundborne Vibration. Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would generate groundborne vibration during construction. The closest sensitive receptors to the Crouch Avenue Alternative are residential dwelling units along Crouch Avenue, located approximately 60 feet away. Similar to the Proposed Project, the highest reference PPV at 25 feet from construction equipment for this alternative would be 0.21 in/sec. Construction vibration related to building damage is assessed using the following equation: $PPV_{Equipment} = PPV_{Ref} (25/D)^{1.5}$. At 60 feet, the construction vibration levels from the Crouch Avenue Alternative would be 0.06 in/sec. This level is much lower than the 0.12 in/sec threshold for buildings extremely susceptible to vibration damage. Similar to the Proposed Project, the highest reference L_V at 25 feet from construction equipment for this alternative would be 94 VdB. Annoyance or interference with vibration-sensitive activities is assessed using the following equation: $L_{V,distance} = L_{V,reference} – 30 \log (D/25)$. At 60 feet, the groundborne vibration level from the Crouch Avenue Alternative would be 83 VdB. This level exceeds the daytime annoyance threshold of 78 VdB for residential uses, resulting in a significant impact. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-NSE-1: Minimize Construction Noise**), which would reduce impacts related to groundborne vibration during construction to less than significant. Operation and maintenance activities do not include the use of vibration-generating equipment. Therefore, no impacts on groundborne vibration would occur during operation and maintenance of the Crouch Avenue Alternative.

The level of impact would be the same as that for the Proposed Project, except that sensitive receptors are located father away from the Crouch Avenue Alternative (60 feet) compared to the Proposed Project (50 feet). Therefore, impacts would be considered slightly lesser under the Crouch Avenue Alternative when compared to the Proposed Project Entler Avenue alignment under this criterion.

Mitigation. To minimize potentially significant groundborne vibration impacts during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-NSE-1** will be implemented.

MM-NSE-1: Minimize Construction Noise (see Section 3.12, Noise and Groundborne Vibration, for description)

Significance after Mitigation. With the implementation of **MM-NSE-1**, noise impacts during construction would be less than significant.

Impact NSE-3: Be located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels (Less than Significant Impact)

The nearest airport to the Crouch Avenue Alternative is the privately owned Ranchaero Airport, which is located approximately 1 mile away. However, the Crouch Avenue Alternative is located within the low noise impact zone for Ranchaero Airport (Butte County Airport Land Use Commission 2017). Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would result in less than significant impacts from being located in the vicinity of an airport.

The level of impact would be the same as that for the Proposed Project, except that the Crouch Avenue Alternative is located within 1 mile of the Ranchaero Airport and the Proposed Project is located within 1.5 mile of the Ranchaero Airport. Both the Crouch Avenue Alternative and Proposed Project are located within the low noise impact zone for the airport. Therefore, impacts would be considered slightly greater under the Crouch Avenue Alternative when compared to the Proposed Project Entler Avenue alignment.

Mitigation. No mitigation required.

5.5.11.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact NSE-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies (Less than Significant Impact with Mitigation Incorporated)

The Entler Avenue Hybrid and Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.12, Noise and Groundborne Vibration. Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would generate noise during construction. During construction, the Entler Avenue Hybrid and Crouch Avenue Alternative would require use of heavy construction equipment that generate noise levels of up to 85 dBA at 50 feet from the equipment. The closest sensitive receptors to the Entler Avenue Hybrid and Crouch Avenue Alternative are residential dwelling units along Entler Avenue, located approximately 50 feet away. Thus, the nearest sensitive receptors to this alternative would be exposed to noise levels of up to 85 dBA from construction equipment. Noise levels from the Entler Avenue Hybrid and Crouch Avenue Alternative would temporarily exceed the daytime noise limits within the applicable jurisdictions

during construction, resulting in a significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-NSE-1: Minimize Construction Noise**), which would reduce impacts on noise levels during construction to less than significant. Noise levels during operation and maintenance activities would be minimal and immeasurable due to the infrequency of these activities. Therefore, no impacts on noise would occur during operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative.

The level of impact would be the same as that for the Proposed Project because sensitive receptors are located at the same distance (50 feet) from both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment. Therefore, both the Proposed Project and the Entler Avenue Hybrid and Crouch Avenue Alternative would result in a less-than-significant impact with mitigation incorporated on this criterion.

Mitigation. To minimize potentially significant noise impacts during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-NSE-1** will be implemented.

MM-NSE-1: Minimize Construction Noise (see Section 3.12, Noise and Groundborne Vibration, for description)

Significance after Mitigation. With the implementation of **MM-NSE-1**, noise impacts during construction would be less than significant.

Impact NSE-2: Generate excessive groundborne vibration or groundborne noise levels (Less than Significant Impact with Mitigation Incorporated)

The Entler Avenue Hybrid and Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.12, Noise and Groundborne Vibration. Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would generate groundborne vibration during construction. The closest sensitive receptors to the Entler Avenue Hybrid and Crouch Avenue Alternative are residential dwelling units along Entler Avenue, located approximately 50 feet away. Similar to the Proposed Project, the highest reference PPV at 25 feet from construction equipment for this alternative would be 0.21 in/sec. Construction vibration related to building damage is assessed using the following equation: $PPV_{Equipment} = PPV_{Ref} (25/D)^{1.5}$. At 50 feet, construction vibration levels from the Entler Avenue Hybrid and Crouch Avenue Alternative would be 0.07 in/sec. This level is much lower than the 0.12 in/sec threshold for buildings extremely susceptible to vibration damage. Similar to the Proposed Project, the highest reference L_V at 25 feet from construction equipment for this alternative would be 94 VdB. Annoyance or interference associated with vibration-sensitive activities is assessed using the following equation: $L_{V,distance} = L_{V,reference} - 30 \log (D/25)$. At 50 feet, the groundborne vibration level from the Entler Avenue Hybrid and Crouch Avenue Alternative would be 85 VdB. This level exceeds the daytime annoyance threshold of 78 VdB for residential uses, resulting in a significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-NSE-1: Minimize Construction Noise**), which would reduce impacts related to groundborne vibration during construction to less than significant. Operation and maintenance activities do not include the use of

vibration-generating equipment. Therefore, no impacts on groundborne vibration would occur during operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative.

The level of impact would be the same as that for the Proposed Project because sensitive receptors are located at the same distance (50 feet) from both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment. Therefore, both the Proposed Project and the Entler Avenue Hybrid and Crouch Avenue Alternative would result in a less-than-significant impact with mitigation incorporated on this criterion.

Mitigation. To minimize potentially significant groundborne vibration impacts during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-NSE-1** will be implemented.

MM-NSE-1: Minimize Construction Noise (see Section 3.12, Noise and Groundborne Vibration, for description)

Significance after Mitigation. With the implementation of **MM-NSE-1**, groundborne vibration impacts during construction would be less than significant.

Impact NSE-3: Be located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels (Less than Significant)

The nearest airport to the Entler Avenue Hybrid and Crouch Avenue Alternative is the privately owned Ranchaero Airport, which is located approximately 1 mile away. However, the Entler Avenue Hybrid and Crouch Avenue Alternative is located within the low noise impact zone for Ranchaero Airport (Butte County Airport Land Use Commission 2017). Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would result in less than significant impacts from being located in the vicinity of an airport

The level of impact would be the same as that for the Proposed Project, except that the Entler Avenue Hybrid and Crouch Avenue Alternative is located within 1 mile of the Ranchaero Airport and the Proposed Project is located within 1.5 mile of the Ranchaero Airport. Both the Entler Avenue Hybrid and Crouch Avenue Alternative and Proposed Project are located within the low noise impact zone for the airport. Therefore, impacts would be considered slightly greater under the Entler Avenue Hybrid and Crouch Avenue Alternative when compared to the Proposed Project alignment.

Mitigation. No mitigation required.

5.5.11.5 Alternatives Impact Summary

Table 5.5-11 summarizes the noise and groundborne vibration impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-11. Alternatives Impacts Summary for Noise and Groundborne Vibration

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact NSE-1: Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies	S/M	NI (-)	S/M (=)	S/M (-)	S/M (=)
Impact NSE-2: Generate excessive groundborne vibration or groundborne noise levels	S/M	NI (-)	S/M (=)	S/M (-)	S/M (=)
Impact NSE-3: Be located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels	LTS	NI (-)	NI (-)	LTS (+)	LTS (+)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.12 Population and Housing

5.5.12.1 No Project Alternative

Impact POP-1: Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure) (No Impact)

Under the No Project Alternative, the Town would not make a regional connection to the Chico WPCP and would continue to rely on existing wastewater management. All population and housing trends and characteristics would remain the same as existing conditions. Paradise population and housing would continue to recover from the 2018 Camp Fire. Therefore, the No Project Alternative would have no impact on population growth in the area. The level of impact would be less than that for the Proposed Project because the Proposed Project would result in less-than-significant impacts on population growth.

Mitigation. No mitigation required.

Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere (No Impact)

Under the No Project Alternative, the Town would not make a regional connection to the Chico WPCP and would continue to rely on existing wastewater management. All population and housing trends and

characteristics would remain the same as existing conditions. The Paradise population and housing would continue to recover from the 2018 Camp Fire. Therefore, the No Project Alternative would have no impact on housing. The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would displace people or housing.

Mitigation. No mitigation required.

5.5.12.2 Entler Avenue Hybrid Alternative

Impact POP-1: Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure) (Less than Significant Impact)

Consistent with the Proposed Project analysis in Section 3.13, Population and Housing, all construction jobs associated with the Entler Avenue Hybrid Alternative would be temporary and construction workers could be drawn from the existing workforce within the county rather than relocating to the study area. However, it is likely that some would be migrant workers from outside of the County that follow construction jobs from location to location, and there may be others that relocate to the Town for the work and decide to stay. Workers that become permanent residents would be part of the Town's population recovery. Consequently, construction of the Entler Avenue Hybrid Alternative would not result in substantial or unplanned population growth and would not necessitate the construction of new roads, additional housing or business services that would be inconsistent with regrowth planned and presented in the *Town of Paradise 2022-2030 Housing Element Update* (Town of Paradise 2022a) and *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008). Therefore, construction of the Entler Avenue Hybrid Alternative would not induce substantial unplanned population growth in the study area, resulting in a less-than-significant impact.

Similar to the Proposed Project, about 5-10 permanent employees would be required to the serve the Entler Avenue Hybrid Alternative. The increase in permanent employees would be minimal because they may be re-assigned from existing staff within the Town or may be additional new staff. The minimal increase in permanent jobs would not result in substantial or unplanned population growth and would not necessitate the construction of additional housing or business services beyond planned regrowth. Although implementation of the Entler Avenue Hybrid Alternative would foster population growth, it is primarily regrowth that would be expected as part of the historic population levels in the Paradise area. Therefore, the Entler Avenue Hybrid Alternative would not induce substantial unplanned population growth in the study area, resulting in a less-than-significant impact. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on population growth.

Mitigation. No mitigation required.

Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere (No Impact)

The Entler Avenue Hybrid Avenue Alternative would not acquire or take any residential-zoned land in the area. While some of the Entler Avenue Hybrid Alternative would be conducted on private parcels,

work would primarily be done within public ROW, which would not cause displacement of existing residents or housing. Work that would occur on private parcels, including connecting properties to the new sewer system or installing the Export Pipeline System would be completed under easements and would not displace existing housing. Therefore, the Entler Avenue Hybrid Alternative would not displace a substantial number of existing people or housing, resulting in no impact. The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would displace people or housing.

Mitigation. No mitigation required.

5.5.12.3 Crouch Avenue Alternative

Impact POP-1: Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure) (Less than Significant Impact)

Consistent with the Proposed Project analysis in Section 3.13, Population and Housing, all construction jobs associated with the Crouch Avenue Alternative would be temporary and construction workers could be drawn from the existing workforce within the county. However, it is likely that some would be migrant workers from outside of the County that follow construction jobs from location to location, and there may be others that relocate to the Town for the work and decide to stay. Workers that become permanent residents would be part of the Town's population recovery. Consequently, construction of the Crouch Avenue Alternative would not result in substantial or unplanned population growth and would not necessitate the construction of new roads, additional housing or business services that would be inconsistent with regrowth planned and presented in the *Town of Paradise 2022-2030 Housing Element Update* (Town of Paradise 2022a) and *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008). Therefore, construction of the Crouch Avenue Alternative would not induce substantial unplanned population growth in the study area, resulting in a less-than-significant impact.

Similar to the Proposed Project, about 5-10 permanent employees would be required to the serve the Crouch Avenue Alternative. The increase in permanent employees would be minimal because they may be re-assigned from existing staff within the Town or may be additional new staff. Therefore, the Crouch Avenue Alternative would not induce substantial unplanned population growth in the study area, resulting in a less-than-significant impact. The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on population growth.

Mitigation. No mitigation required.

Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere (No Impact)

The Crouch Avenue Alternative would not acquire or take any residential-zoned land in the area. While some of the Crouch Avenue Alternative would be conducted on private parcels, work would be primarily be done within public ROW, which would not cause displacement of existing residents or housing. Work that would occur on private parcels, including connecting properties to the new sewer system or installing the Export Pipeline System would be completed under easements and would not displace

existing housing. Therefore, the Crouch Avenue Alternative would not displace a substantial number of existing people or housing, resulting in no impact. The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would displace people or housing.

Mitigation. No mitigation required.

5.5.12.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact POP-1: Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure (Less Than Significant Impact)

Consistent with the Proposed Project analysis in Section 3.13, Population and Housing, all construction jobs associated with the Entler Avenue Hybrid and Crouch Avenue Alternative would be temporary and construction workers could be drawn from the existing workforce within the county. However, it is likely that some would be migrant workers from outside of the County that follow construction jobs from location to location, and there may be others that relocate to the Town for the work and decide to stay. Workers that become permanent residents would be part of the Town's population recovery. Consequently, construction of the Entler Avenue Hybrid and Crouch Avenue Alternative would not result in substantial or unplanned population growth and would not necessitate the construction of new roads, additional housing or business services that would be inconsistent with regrowth planned and presented in the *Town of Paradise 2022-2030 Housing Element Update* (Town of Paradise 2022a) and *Town of Paradise General Plan* (Town of Paradise and Quad Consultants 2008). Therefore, construction of the Entler Avenue Hybrid and Crouch Avenue Alternative would not induce substantial unplanned population growth in the study area, resulting in a less-than-significant impact.

Similar to the Proposed Project, about 5 to 10 permanent employees would be required to the serve the Entler Avenue Hybrid and Crouch Avenue Alternative. The increase in permanent employees would be minimal because they may be re-assigned from existing staff within the Town or may be additional new staff. Therefore, the Entler Avenue Hybrid and Crouch Avenue Alternative would not induce substantial unplanned population growth in the study area, resulting in a less-than-significant impact. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project Entler alignment would result in less-than-significant impacts on population growth.

Mitigation. No mitigation required.

Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere (No Impact)

The Entler Avenue Hybrid and Crouch Avenue Alternative would not acquire or take any residential-zoned land in the area. While some of the Entler Avenue Hybrid and Crouch Avenue Alternative would be conducted on private parcels, work would primarily be done within public ROW, which would not cause displacement of existing residents or housing. Work that would occur on private parcels, including connecting properties to the new sewer system or installing the Export Pipeline System would be completed under easements and would not displace existing housing. Therefore, the Entler Avenue

Hybrid and Crouch Avenue Alternative would not displace a substantial number of existing people or housing, resulting in no impact. The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project Entler alignment would displace people or housing.

Mitigation. No mitigation required.

5.5.12.5 Alternatives Impact Summary

Table 5.5-12 summarizes the population and housing impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-12. Alternatives Impacts Summary for Population and Housing

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact POP-1: Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere	NI	NI (=)	NI (=)	NI (=)	NI (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.13 Public Services

5.5.13.1 No Project Alternative

Impact PS-1: 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 following public services:

(a) Fire Protection (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no construction is proposed. Therefore, there would be no impact from an increased demand for fire protection services. The level of impact would be less than that for the Proposed Project because the No Project Alternative would not impact fire protection services, while the Proposed Project would result in less-than-significant impacts with mitigation incorporated.

Mitigation. No mitigation required.

(b) Police Protection (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no construction is proposed. Therefore, there would be no impact from an increased demand for police protection services. The level of impact would be less than that for the Proposed Project because the No Project Alternative would not impact police protection services, while the Proposed Project would result in less-than-significant impacts with mitigation incorporated.

Mitigation. No mitigation required.

(c) Schools (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no construction is proposed. Therefore, there would be no impact from an increased demand for schools. The level of impact would be less than that for the Proposed Project because the No Project Alternative would not impact schools, while the Proposed Project would result in less-than-significant impacts with mitigation incorporated.

Mitigation. No mitigation required.

(d) Other Public Facilities (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no construction is proposed. Therefore, there would be no impact from an increased demand for other public facilities. The level of impact would be less than that for the Proposed Project because the No Project Alternative would not impact other public facilities, while the Proposed Project would result in less-than-significant impacts with mitigation incorporated.

Mitigation. No mitigation required.

5.5.13.2 Entler Avenue Hybrid Alternative

Impact PS-1: 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 following public services:

(a) Fire Protection (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project analysis, construction workers for the Entler Avenue Hybrid Alternative would likely be drawn from the existing workforce within Butte County rather than relocating to the study area. The increase in employment during construction of this alternative would be temporary and would not result in an increased demand for fire protection services. No fire stations would be directly impacted during construction of the Entler Avenue Hybrid Alternative. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary lane closures and movement of construction equipment on local

roads, resulting in a potentially significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency vehicle access during construction to less than significant. During operation and maintenance, the Entler Avenue Hybrid Alternative would not result in any permanent impacts to the fire stations within the study area. No home or businesses are proposed that could result in an increased demand for fire protection services. The new employees required during operation and maintenance of this alternative would be minimal and would not result in an increased demand for fire protection services. Consistent with the Proposed Project, the Entler Avenue Hybrid Alternative may induce population within Paradise town limits, which could eventually result in an increased need for fire protection services. However, any population inducement would be regrowth and repopulation toward pre-fire levels and would be contained within Paradise. Therefore, operation and maintenance of the Entler Avenue Hybrid Alternative would have a less-than-significant impact on fire protection services.

The level of impact would be the same as that for the Proposed Project because both the Enter Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated on fire protection services.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Enter Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency vehicle access during construction would be less than significant.

(b) Police Protection (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project analysis, construction workers for the Entler Avenue Hybrid Alternative would likely be drawn from the existing workforce within Butte County rather than relocating to the study area. The increase in employment during construction of this alternative would be temporary and would not result in an increased demand for police protection services. No police stations would be directly impacted during construction of the Entler Avenue Hybrid Alternative. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary lane closures and movement of construction equipment on local roads, resulting in a potentially significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency vehicle access during construction to less than significant. During operation and maintenance, the Entler Avenue Hybrid Alternative would not result in any permanent impacts to the police stations within the study area. No home or businesses are proposed that could result in an increased demand for police protection services. The new employees required during operation and maintenance of this alternative would be minimal and would not result in an increased demand for police protection services. Consistent with the Proposed Project, the Entler Avenue Hybrid Alternative may induce population within Paradise town limits, which could eventually

result in an increased need for police protection services. However, any population inducement would be regrowth and repopulation toward pre-fire levels and would be contained within Paradise. Therefore, operation and maintenance of the Entler Avenue Hybrid Alternative would have a less-than-significant impact on police protection services.

The level of impact would be the same as that for the Proposed Project because both the Enter Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated on police protection services.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Enter Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency vehicle access during construction would be less than significant.

(c) Schools (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project analysis, construction workers for the Entler Avenue Hybrid Alternative would likely be drawn from the existing workforce within Butte County rather than relocating to the study area. The increase in employment during construction of this alternative would be temporary and would not result in an increased demand for schools. No schools would be directly impacted during construction of the Entler Avenue Hybrid Alternative. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary lane closures and movement of construction equipment on local roads, resulting in a potentially significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency vehicle access during construction to less than significant. During operation and maintenance, the Entler Avenue Hybrid Alternative would not result in any permanent impacts to the schools within the study area. No home or businesses are proposed that could result in an increased demand for schools. The new employees required during operation and maintenance of this alternative would be minimal and would not result in an increased demand for schools. Consistent with the Proposed Project, the Entler Avenue Hybrid Alternative may induce population within Paradise town limits, which could eventually result in an increased need for schools. However, any population inducement would be regrowth and repopulation toward pre-fire levels and would be contained within Paradise. Therefore, operation and maintenance of the Entler Avenue Hybrid Alternative would have a less-than-significant impact on schools.

The level of impact would be the same as that for the Proposed Project because both the Enter Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated on schools.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Enter Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency vehicle access during construction would be less than significant.

(d) Other Public Facilities (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project analysis, construction workers for the Entler Avenue Hybrid Alternative would likely be drawn from the existing workforce within Butte County rather than relocating to the study area. The increase in employment during construction of this alternative would be temporary and would not result in an increased demand for other public facilities. Other public facilities, such as libraries, would not be directly impacted during construction of the Entler Avenue Hybrid Alternative. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary lane closures and movement of construction equipment on local roads, resulting in a potentially significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency vehicle access during construction to less than significant. During operation and maintenance, the Entler Avenue Hybrid Alternative would not result in any permanent impacts to the other public facilities, such as libraries, within the study area. No home or businesses are proposed that could result in an increased demand for other public facilities. The new employees required during operation and maintenance of this alternative would be minimal and would not result in an increased demand for other public facilities. Consistent with the Proposed Project, the Entler Avenue Hybrid Alternative may induce population within Paradise town limits, which could eventually result in an increased need for other public facilities. However, any population inducement would be regrowth and repopulation toward pre-fire levels and would be contained within Paradise. Therefore, operation and maintenance of the Entler Avenue Hybrid Alternative would have a less-than-significant impact on other public facilities.

The level of impact would be the same as that for the Proposed Project because both the Enter Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated on other public facilities.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Enter Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency vehicle access during construction would be less than significant.

5.5.13.3 Crouch Avenue Alternative

Impact PS-1: 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 following public services:

(a) Fire Protection (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project analysis, construction workers for the Crouch Avenue Alternative would likely be drawn from the existing workforce within Butte County rather than relocating to the study area. The increase in employment during construction of this alternative would be temporary and would not result in an increased demand for fire protection services. No fire stations would be directly impacted during construction of the Crouch Avenue Alternative. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary lane closures and movement of construction equipment on local roads, resulting in a potentially significant impact. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency vehicle access during construction to less than significant. During operation and maintenance, the Crouch Avenue Alternative would not result in any permanent impacts to the fire stations within the study area. No home or businesses are proposed that could result in an increased demand for fire protection services. The new employees required during operation and maintenance of this alternative would be minimal and would not result in an increased demand for fire protection services. Consistent with the Proposed Project, the Crouch Avenue Alternative may induce population within Paradise town limits, which could eventually result in an increased need for fire protection services. However, any population inducement would be regrowth and repopulation toward pre-fire levels and would be contained within Paradise. Therefore, operation and maintenance of the Crouch Avenue Alternative would have a less-than-significant impact on fire protection services.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated on fire protection services.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency vehicle access during construction would be less than significant.

(b) Police Protection (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project analysis, construction workers for the Crouch Avenue Alternative would likely be drawn from the existing workforce within Butte County rather than relocating to the study area. The increase in employment during construction of this alternative would be temporary and would not result in an increased demand for police protection services. No police stations would be directly impacted during construction of the Crouch Avenue Alternative. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary lane closures and movement of construction equipment on local roads, resulting in a potentially significant impact. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency vehicle access during construction to less than significant. During operation and maintenance, the Crouch Avenue Alternative would not result in any permanent impacts to the police stations within the study area. No home or businesses are proposed that could result in an increased demand for police protection services. The new employees required during operation and maintenance of this alternative would be minimal and would not result in an increased demand for police protection services. Consistent with the Proposed Project, the Crouch Avenue Alternative may induce population within Paradise town limits, which could eventually result in an increased need for police protection services. However, any population inducement would be regrowth and repopulation toward pre-fire levels and would be contained within Paradise. Therefore, operation and maintenance of the Crouch Avenue Alternative would have a less-than-significant impact on police protection services.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated on police protection services.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency vehicle access during construction would be less than significant.

(c) Schools (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project analysis, construction workers for the Crouch Avenue Alternative would likely be drawn from the existing workforce within Butte County rather than relocating to the study area. The increase in employment during construction of this alternative would be temporary and would not result in an increased demand for schools. No schools would be directly impacted during construction of the Crouch Avenue Alternative. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary lane closures and movement of construction equipment on local roads, resulting in a potentially significant impact. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed

Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency vehicle access during construction to less than significant. During operation and maintenance, the Crouch Avenue Alternative would not result in any permanent impacts to the schools within the study area. No home or businesses are proposed that could result in an increased demand for schools. The new employees required during operation and maintenance of this alternative would be minimal and would not result in an increased demand for schools. Consistent with the Proposed Project, the Crouch Avenue Alternative may induce population within Paradise town limits, which could eventually result in an increased need for schools. However, any population inducement would be regrowth and repopulation toward pre-fire levels and would be contained within Paradise. Therefore, operation and maintenance of the Crouch Avenue Alternative would have a less-than-significant impact on schools.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated on schools.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency vehicle access during construction would be less than significant.

(d) Other Public Facilities (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project analysis, construction workers for the Crouch Avenue Alternative would likely be drawn from the existing workforce within Butte County rather than relocating to the study area. The increase in employment during construction of this alternative would be temporary and would not result in an increased demand for other public facilities. Other public facilities, such as libraries, would not be directly impacted during construction of the Crouch Avenue Alternative. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary lane closures and movement of construction equipment on local roads, resulting in a potentially significant impact. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency vehicle access during construction to less than significant. During operation and maintenance, the Crouch Avenue Alternative would not result in any permanent impacts to the other public facilities, such as libraries, within the study area. No home or businesses are proposed that could result in an increased demand for other public facilities. The new employees required during operation and maintenance of this alternative would be minimal and would not result in an increased demand for other public facilities. Consistent with the Proposed Project, the Crouch Avenue Alternative may induce population within Paradise town limits, which could eventually result in an increased need for other public facilities. However, any population inducement would be regrowth and repopulation toward pre-fire levels and would be contained within Paradise. Therefore, operation

and maintenance of the Crouch Avenue Alternative would have a less-than-significant impact on other public facilities.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated on other public facilities.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency vehicle access during construction would be less than significant.

5.5.13.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact PS-1: 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 following public services:

(a) Fire Protection (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project analysis, construction workers for the Entler Avenue Hybrid and Crouch Avenue Alternative would likely be drawn from the existing workforce within Butte County rather than relocating to the study area. The increase in employment during construction of this alternative would be temporary and would not result in an increased demand for fire protection services. No fire stations would be directly impacted during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary lane closures and movement of construction equipment on local roads, resulting in a potentially significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency vehicle access during construction to less than significant. During operation and maintenance, the Entler Avenue Hybrid and Crouch Avenue Alternative would not result in any permanent impacts to the fire stations within the study area. No home or businesses are proposed that could result in an increased demand for fire protection services. The new employees required during operation and maintenance of this alternative would be minimal and would not result in an increased demand for fire protection services. Consistent with the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative may induce population within Paradise town limits, which could eventually result in an increased need for fire protection services. However, any population inducement would be regrowth and repopulation toward pre-fire levels and would be contained within Paradise. Therefore, operation

and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would have a less-than-significant impact on fire protection services.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in a less-than-significant impact with mitigation incorporated on fire protection services.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency vehicle access during construction would be less than significant.

(b) Police Protection (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project analysis, construction workers for the Entler Avenue Hybrid and Crouch Avenue Alternative would likely be drawn from the existing workforce within Butte County rather than relocating to the study area. The increase in employment during construction of this alternative would be temporary and would not result in an increased demand for police protection services. No police stations would be directly impacted during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary lane closures and movement of construction equipment on local roads, resulting in a potentially significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency vehicle access during construction to less than significant. During operation and maintenance, the Entler Avenue Hybrid and Crouch Avenue Alternative would not result in any permanent impacts to the police stations within the study area. No home or businesses are proposed that could result in an increased demand for police protection services. The new employees required during operation and maintenance of this alternative would be minimal and would not result in an increased demand for police protection services. Consistent with the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative may induce population within Paradise town limits, which could eventually result in an increased need for police protection services. However, any population inducement would be regrowth and repopulation toward pre-fire levels and would be contained within Paradise. Therefore, operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would have a less-than-significant impact on police protection services.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in a less-than-significant impact with mitigation incorporated on police protection services.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency vehicle access during construction would be less than significant.

(c) Schools (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project analysis, construction workers for the Entler Avenue Hybrid and Crouch Avenue Alternative would likely be drawn from the existing workforce within Butte County rather than relocating to the study area. The increase in employment during construction of this alternative would be temporary and would not result in an increased demand for schools. No schools would be directly impacted during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary lane closures and movement of construction equipment on local roads, resulting in a potentially significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency vehicle access during construction to less than significant. During operation and maintenance, the Entler Avenue Hybrid and Crouch Avenue Alternative would not result in any permanent impacts to the schools within the study area. No home or businesses are proposed that could result in an increased demand for schools. The new employees required during operation and maintenance of this alternative would be minimal and would not result in an increased demand for schools. Consistent with the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative may induce population within Paradise town limits, which could eventually result in an increased need for schools. However, any population inducement would be regrowth and repopulation toward pre-fire levels and would be contained within Paradise. Therefore, operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would have a less-than-significant impact on schools.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in a less-than-significant impact with mitigation incorporated on schools.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency vehicle access during construction would be less than significant.

(d) Other Public Facilities (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project analysis, construction workers for the Entler Avenue Hybrid and Crouch Avenue Alternative would likely be drawn from the existing workforce within Butte County rather than relocating to the study area. The increase in employment during construction of this alternative would be temporary and would not result in an increased demand for other public facilities. Other public facilities, such as libraries, would not be directly impacted during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative. However, indirect impacts may occur related to emergency vehicle access that may be impeded during construction due to nearby temporary lane closures and movement of construction equipment on local roads, resulting in a potentially significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency vehicle access during construction to less than significant. During operation and maintenance, the Entler Avenue Hybrid and Crouch Avenue Alternative would not result in any permanent impacts to the other public facilities, such as libraries, within the study area. No home or businesses are proposed that could result in an increased demand for other public facilities. The new employees required during operation and maintenance of this alternative would be minimal and would not result in an increased demand for other public facilities. Consistent with the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative may induce population within Paradise town limits, which could eventually result in an increased need for other public facilities. However, any population inducement would be regrowth and repopulation toward pre-fire levels and would be contained within Paradise. Therefore, operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would have a less-than-significant impact on other public facilities.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in a less-than-significant impact with mitigation incorporated on other public facilities.

Mitigation. To minimize potentially significant impacts related to emergency vehicle access during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency vehicle access during construction would be less than significant.

5.5.13.5 Alternatives Impact Summary

Table 5.5-13 summarizes the public services impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-13. Alternatives Impacts Summary for Public Services

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact PS-1(a): Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: Fire Protection	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact PS-1(b): 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 following public services: Police Protection	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact PS-1(c): 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 following public services: Schools	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact PS-1(d): 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 following public services: Other Public Facilities	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.14 Recreation

5.5.14.1 No Project Alternative

Impact REC-1: 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 (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no construction is proposed. Therefore, there would be no impact from an increase in the use of existing neighborhood and regional parks or other recreational facilities. The level of impact would be less than that for the Proposed Project because the No Project Alternative would not increase the use of parks and recreational facilities, while the Proposed Project would result in less-than-significant impacts.

Mitigation. No mitigation required.

Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment (No Impact)

The No Project Alternative would not include recreational facilities. Additionally, there would be no increase in population or damage to existing recreational facilities that would necessitate the expansion of recreational facilities. Therefore, there would be no impact. The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would require the construction or expansion of recreational facilities.

Mitigation. No mitigation required.

5.5.14.2 Entler Avenue Hybrid Alternative

Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated (Less than Significant Impact)

Recreational zonings and the Tuscan Ridge Club adjoin the Entler Avenue Hybrid Alternative. Within the study area there is a bike trail along Midway, and Hegan Lane is also considered a bicycle friendly road. Similar to the Proposed Project, no water-based recreation would be affected by the Entler Avenue Hybrid Alternative and staging areas would not be located within a 2-mile radius of recreational areas.

Construction would occur primarily within the existing ROW on previously disturbed land. Given that most work would occur in the public ROW, there is potential for bike paths or access to recreation to be temporarily closed or impeded during construction. Full road closures would not occur except during movement of large equipment; single lane, temporary closures are proposed. Any road and bike path closures would also be temporary. Minor increases in recreational use at other available facilities may occur on a short-term basis, but substantial physical deterioration of these facilities is not expected to occur or be accelerated. Operation and maintenance activities associated with the Entler Avenue Hybrid Alternative would have no influence on the use of parks and recreational facilities in the study

area. Consistent with the Proposed Project analysis, increases in population supported by the Entler Avenue Hybrid Alternative would primarily consist of regrowth and repopulation toward pre-fire levels. However, recreational facilities within the Town were sized to meet the pre-fire demand for services by the Town and would be anticipated to rebuild to previous conditions on par with the returning population. Further, growth beyond pre-fire conditions would be in alignment with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008). Therefore, the Entler Avenue Hybrid Alternative would result in a less than significant on the increase in use of an existing neighborhood or regional park or other recreational facility. The level of impact would be the same as that for the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative because both would result in a less than significant impact on this criterion.

Mitigation. No mitigation required.

Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment (Less than Significant Impact)

New recreational facilities are not proposed under the Entler Avenue Hybrid Alternative, nor would construction of the Entler Avenue Hybrid Alternative cause construction or expansion of existing recreational facilities where it might have an adverse physical effect on the environment. Operation and maintenance activities associated with the Entler Avenue Hybrid Alternative would have no influence on the use of parks and recreational facilities in the study area. Consistent with the Proposed Project analysis, increases in population supported by the Entler Avenue Hybrid Alternative would primarily consist of regrowth and repopulation toward pre-fire levels. However, recreational facilities within the Town were sized to meet the pre-fire demand for services by the Town and would be anticipated to rebuild to previous conditions on par with the returning population. Further, growth beyond pre-fire conditions would be in alignment with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008). Therefore, the Entler Avenue Hybrid Alternative would result in a less than significant on the construction or expansion of recreational facilities. The level of impact would be the same as that for the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative because both would result in a less than significant impact on this criterion.

Mitigation. No mitigation required.

5.5.14.3 Crouch Avenue Alternative

Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated (Less than Significant Impact)

Recreational zonings and the Tuscan Ridge Club adjoin the Crouch Avenue Alternative. Within the study area there is a bike trail along Midway, and Hegan Lane is also considered a bicycle friendly road. Similar to the Proposed Project, no water-based recreation would be affected by the Crouch Avenue Alternative and staging areas would not be located within a 2-mile radius of recreational areas.

Construction would occur primarily within the existing ROW on previously disturbed land. Given that most work would occur in the public ROW, there is potential for bike paths or access to recreation to be

temporarily closed or impeded during construction. Full road closures would not occur except during movement of large equipment; single lane, temporary closures are proposed. Any road and bike path closures would also be temporary. Minor increases in recreational use at other available facilities may occur on a short-term basis, but substantial physical deterioration of these facilities is not expected to occur or be accelerated. Operation and maintenance activities associated with the Crouch Avenue Alternative would have no influence on the use of parks and recreational facilities in the study area. Consistent with the Proposed Project analysis, increases in population supported by the Crouch Avenue Alternative would primarily consist of regrowth and repopulation toward pre-fire levels. However, recreational facilities within the Town were sized to meet the pre-fire demand for services by the Town and would be anticipated to rebuild to previous conditions on par with the returning population. Further, growth beyond pre-fire conditions would be in alignment with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008).Therefore, the Crouch Avenue Alternative would result in a less than significant on the increase in use of an existing neighborhood or regional park or other recreational facility. The level of impact would be the same as that for the Proposed Project Entler Avenue alignment and the Crouch Avenue Alternative because both would result in a less than significant impact on this criterion.

Mitigation. No mitigation required.

Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment (Less than Significant Impact)

New recreational facilities are not proposed under the Crouch Avenue Alternative, nor would construction of the Crouch Avenue Alternative cause construction or expansion of existing recreational facilities where it might have an adverse physical effect on the environment. Operation and maintenance activities associated with the Crouch Avenue Alternative would have no influence on the use of parks and recreational facilities in the study area. Consistent with the Proposed Project analysis, increases in population supported by the Crouch Avenue Alternative would primarily consist of regrowth and repopulation toward pre-fire levels. However, recreational facilities within the Town were sized to meet the pre-fire demand for services by the Town and would be anticipated to rebuild to previous conditions on par with the returning population. Further, growth beyond pre-fire conditions would be in alignment with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008). Therefore, the Crouch Avenue Alternative would result in a less than significant on the construction or expansion of recreational facilities. The level of impact would be the same as that for the Proposed Project Entler Avenue alignment and the Crouch Avenue Alternative because both would result in a less than significant impact on this criterion.

Mitigation. No mitigation required.

5.5.14.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated (Less than Significant Impact)

Recreational zonings and the Tuscan Ridge Club adjoin the Entler Avenue Hybrid and Crouch Avenue Alternative. Within the study area there is a bike trail along Midway, and Hegan Lane is also considered a bicycle friendly road. Similar to the Proposed Project, no water-based recreation would be affected by the Entler Avenue Hybrid and Crouch Avenue Alternative and staging areas would not be located within a 2-mile radius of recreational areas.

Construction would occur primarily within the existing ROW on previously disturbed land. Given that most work would occur in the public ROW, there is potential for bike paths or access to recreation to be temporarily closed or impeded during construction. Full road closures would not occur except during movement of large equipment; single lane, temporary closures are proposed. Any road and bike path closures would also be temporary. Minor increases in recreational use at other available facilities may occur on a short-term basis, but substantial physical deterioration of these facilities is not expected to occur or be accelerated. Operation and maintenance activities associated with the Entler Avenue Hybrid and Crouch Avenue Alternative would have no influence on the use of parks and recreational facilities in the study area. Consistent with the Proposed Project analysis, increases in population supported by the Entler Avenue Hybrid and Crouch Avenue Alternative would primarily consist of regrowth and repopulation toward pre-fire levels. However, recreational facilities within the Town were sized to meet the pre-fire demand for services by the Town and would be anticipated to rebuild to previous conditions on par with the returning population. Further, growth beyond pre-fire conditions would be in alignment with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008). Therefore, the Entler Avenue Hybrid and Crouch Avenue Alternative would result in a less than significant on the increase in use of an existing neighborhood or regional park or other recreational facility. The level of impact would be the same as that for the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid and Crouch Avenue Alternative because both would result in a less than significant impact on this criterion.

Mitigation. No mitigation required.

Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment (Less than Significant Impact)

New recreational facilities are not proposed under the Entler Avenue Hybrid and Crouch Avenue Alternative, nor would construction of the Entler Avenue Hybrid and Crouch Avenue Alternative cause construction or expansion of existing recreational facilities where it might have an adverse physical effect on the environment. Operation and maintenance activities associated with the Entler Avenue Hybrid and Crouch Avenue Alternative would have no influence on the use of parks and recreational facilities in the study area. Consistent with the Proposed Project analysis, increases in population supported by the Entler Avenue Hybrid and Crouch Avenue Alternative would primarily consist of regrowth and repopulation toward pre-fire levels. However, recreational facilities within the Town were

sized to meet the pre-fire demand for services by the Town and would be anticipated to rebuild to previous conditions on par with the returning population. Further, growth beyond pre-fire conditions would be in alignment with the *Town of Paradise General Plan* assumptions for future growth (Town of Paradise and Quad Consultants 2008). Therefore, the Entler Avenue Hybrid and Crouch Avenue Alternative would result in a less than significant on the construction or expansion of recreational facilities. The level of impact would be the same as that for the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid and Crouch Avenue Alternative because both would result in a less than significant impact on this criterion.

Mitigation. No mitigation required.

5.5.14.5 Alternatives Impact Summary

Table 5.5-14 summarizes the recreation impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-14. Alternatives Impacts Summary for Recreation

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact REC-1: 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	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.15 Transportation

5.5.15.1 No Project Alternative

Impact TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no construction is proposed Therefore, the No Project Alternative would not conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. As a result, no impacts would occur. The level of impact would be less than that for the Proposed Project because the Proposed Project would result in a less than significant impact with mitigation incorporated on this criterion.

Mitigation. No mitigation required.

Impact TRA-2: Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no construction is proposed. Therefore, the No Project Alternative would not conflict with CEQA Guidelines Section 15064.3, subdivision (b), and no impact would occur. The level of impact would be less than that for the Proposed Project because the Proposed Project would result in a less-than-significant impact on this criterion.

Mitigation. No mitigation required.

Impact TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no construction is proposed. Therefore, the No Project Alternative would not increase hazards due to a geometric design feature, and no impact would occur. The level of impact would be the same as that for the proposed Project because neither the No Project Alternative nor the Proposed Project would substantially increase hazards due to a geometric design feature.

Mitigation. No mitigation required.

Impact TRA-4: Result in inadequate emergency access (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no construction is proposed. Therefore, the No Project Alternative would not result in inadequate emergency access, and no impact would occur. The level of impact would be less than that for the Proposed Project because the Proposed Project would result in a less-than-significant impact on this criterion.

Mitigation. No mitigation required.

5.5.15.2 Entler Avenue Hybrid Alternative

Impact TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities (Less than Significant Impact with Mitigation Incorporated)

The Entler Avenue Hybrid Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.16, Transportation. Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would generate an increase in traffic volumes on roadway segments during construction. The Entler Avenue Hybrid Alternative would generate vehicle trip volumes similar to those listed in Table 3.16-4, 2026 No Construction and Construction Traffic Volumes. However, the additional construction trips would be minimal compared to the typical volume and would not cause a degradation of LOS. As a result, the roadway segments would operate at an acceptable LOS with addition of construction traffic associated with the Entler Avenue Hybrid Alternative. Construction of this alternative within or across streets would require temporary lane closures, which

could obstruct access and cause delays for pedestrians, bicyclists, and transit buses. Therefore, the Entler Avenue Hybrid Alternative would conflict with a program, plan, ordinance, or policy addressing the circulation system, resulting in a significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts on pedestrian, bicycle, and transit facilities during construction to less than significant. Relative to existing traffic volumes on roadways in the study area, the addition of traffic associated with operation and maintenance of the Entler Avenue Hybrid Alternative would not affect roadway operations. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated on this criterion.

Mitigation. To minimize potentially significant impacts on pedestrian, bicycle, and transit facilities during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9 Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts on pedestrian, bicycle, and transit facilities during construction would be less than significant.

Impact TRA-2: Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would cause a temporary increase in VMT during construction. The Entler Avenue Hybrid Alternative would generate VMT similar to those listed in Table 3.16-5, Butte County VMT. The percentage increase in VMT due to construction trips associated with the Entler Avenue Hybrid Alternative would be 2.3 percent of Butte County's VMT. While the construction traffic would cause an increase in VMT, this increase would be temporary and short-term. Operation and maintenance activities would not cause a long-term increase in VMT in the study area due to the infrequency of these activities Therefore, the Entler Avenue Hybrid Alternative would not conflict with CEQA Guidelines Section 15064.3(b), resulting in a less-than-significant impact. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on CEQA Guidelines Section 15064.3(b).

Mitigation. No mitigation required.

Impact TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (No Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would not change geometric design features or require incompatible uses. All street legal trucks and vehicles would use the existing roadways to access the Entler Avenue Hybrid Alternative area. Therefore, the Entler Avenue Hybrid Alternative would not increase hazards due to a geometric design feature or incompatible uses, resulting in no impact. The level of impact would be the same as that for the

Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would increase traffic hazards.

Mitigation. No mitigation required.

Impact TRA-4: Result in inadequate emergency access (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative would require temporary closure of traffic lanes on public roadways. Construction traffic associated with the Entler Avenue Hybrid Alternative could interfere with emergency response to the Entler Avenue Hybrid Alternative area or evacuation procedures in the event of an emergency. Therefore, the Entler Avenue Hybrid Alternative could result in inadequate emergency access, resulting in a significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency access during construction to less than significant. The increase in vehicle trips during operation and maintenance activities associated with this alternative would be minimal and immeasurable due to the infrequency of these activities, resulting in no impact. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts related to emergency access during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9 Hazards and Hazardous Materials for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency access during construction would be less than significant.

5.5.15.3 Crouch Avenue Alternative

Impact TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities (Less than Significant Impact with Mitigation Incorporated)

The Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.16, Transportation. Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would generate an increase in traffic volumes on roadway segments during construction. The Crouch Avenue Alternative would generate vehicle trip volumes similar to those listed in Table 3.16-4, 2026 No Construction and Construction Traffic Volumes. However, the additional construction trips would be minimal compared to the typical volume and would not cause a degradation of LOS. As a result, the roadway segments would operate at an acceptable LOS with addition of construction traffic associated with the Crouch Avenue Alternative. Construction of this alternative within or across streets would require temporary lane closures, which could obstruct access and cause

delays for pedestrians, bicyclists, and transit buses. Therefore, the Crouch Avenue Alternative would conflict with a program, plan, ordinance, or policy addressing the circulation system, resulting in a significant impact. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts on pedestrian, bicycle, and transit facilities during construction to less than significant. Operation and maintenance activities, as described in Section 2.8, would result in increased traffic volumes on the roadways in the study area. Relative to existing traffic volumes on roadways in the study area, the addition of traffic associated with operation and maintenance of the Crouch Avenue Alternative would not affect roadway operations. The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated on this criterion.

Mitigation. To minimize potentially significant impacts on pedestrian, bicycle, and transit facilities during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9 Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts on pedestrian, bicycle, and transit facilities during construction would be less than significant.

Impact TRA-2: Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would cause a temporary increase in VMT during construction. The Crouch Avenue Alternative would generate VMT similar to those listed in Table 3.16-5, Butte County VMT. The percentage increase in VMT due to construction trips associated with the Crouch Avenue Alternative would be 2.3 percent of Butte County's VMT. While the construction traffic would cause an increase in VMT, this increase would be temporary and short-term. Operation and maintenance activities, as described in Section 2.8, would not cause an increase in VMT in the study area due to the infrequency of these activities. Therefore, the Crouch Avenue Alternative would not conflict with CEQA Guidelines Section 15064.3(b), resulting in a less-than-significant impact. The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on CEQA Guidelines Section 15064.3(b).

Mitigation. No mitigation required.

Impact TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (No Impact)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would not change geometric design features or require incompatible uses. All street legal trucks and vehicles would use the existing roadways to access the Crouch Avenue Alternative area. Therefore, the Crouch Avenue Alternative would not increase hazards due to a geometric design feature or incompatible uses, resulting in no impact. The level of impact would be the same as that for the Proposed Project because

neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would increase traffic hazards.

Mitigation. No mitigation required.

Impact TRA-4: Result in inadequate emergency access (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative would require temporary closure of traffic lanes on public roadways. Construction traffic associated with the Crouch Avenue Alternative could interfere with emergency response to the Crouch Avenue Alternative area or evacuation procedures in the event of an emergency. Therefore, the Crouch Avenue Alternative could result in inadequate emergency access, resulting in a significant impact. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency access during construction to less than significant. Operation and maintenance activities, as described in Section 2.8, would result in increased traffic volumes on the roadways in the study area. Relative to existing traffic volumes on roadways in the study area, the addition of traffic associated with operation and maintenance of the Crouch Avenue Alternative would not affect roadway operations in the study area. The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts related to emergency access during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9 Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency access during construction would be less than significant.

5.5.15.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities (Less than Significant Impact with Mitigation Incorporated)

The Entler Avenue Hybrid and Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.16, Transportation. Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would generate an increase in traffic volumes on roadway segments during construction. The Entler Avenue Hybrid and Crouch Avenue Alternative would generate vehicle trip volumes similar to those listed in Table 3.16-4, 2026 No Construction and Construction Traffic Volumes. However, the additional construction trips would be minimal compared to the typical volume and would not cause a degradation of LOS. As a result, the roadway segments would operate at an acceptable LOS with addition of construction traffic

associated with the Entler Avenue Hybrid and Crouch Avenue Alternative. Construction of this alternative within or across streets would require temporary lane closures, which could obstruct access and cause delays for pedestrians, bicyclists, and transit buses. Therefore, the Entler Avenue Hybrid and Crouch Avenue Alternative would conflict with a program, plan, ordinance, or policy addressing the circulation system, resulting in a significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts on pedestrian, bicycle, and transit facilities during construction to less than significant. Operation and maintenance activities, as described in Section 2.8, would result in increased traffic volumes on the roadways in the study area. Relative to existing traffic volumes on roadways in the study area, the addition of traffic associated with operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not affect roadway operations. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated on this criterion.

Mitigation. To minimize potentially significant impacts on pedestrian, bicycle, and transit facilities during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9 Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts on pedestrian, bicycle, and transit facilities during construction would be less than significant.

Impact TRA-2: Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (Less than Significant Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would cause a temporary increase in VMT during construction. The Entler Avenue Hybrid and Crouch Avenue Alternative would generate VMT similar to those listed in Table 3.16-5, Butte County VMT. The percentage increase in VMT due to construction trips associated with the Entler Avenue Hybrid and Crouch Avenue Alternative would be 2.3 percent of Butte County's VMT. While the construction traffic would cause an increase in VMT, this increase would be temporary and short-term. Operation and maintenance activities, as described in Section 2.8, would not cause an increase in VMT in the study area due to the infrequency of these activities. Therefore, the Entler Avenue Hybrid and Crouch Avenue Alternative would not conflict with CEQA Guidelines Section 15064.3(b), resulting in a less-than-significant impact. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts on CEQA Guidelines Section 15064.3(b).

Mitigation. No mitigation required.

Impact TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (No Impact)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would not change geometric design features or require incompatible uses. All street legal trucks and vehicles would use the existing roadways to access the Entler Avenue Hybrid and Crouch Avenue Alternative area. Therefore, the Entler Avenue Hybrid and Crouch Avenue Alternative would not increase hazards due to a geometric design feature or incompatible uses, resulting in no impact. The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project alignment would increase traffic hazards.

Mitigation. No mitigation required.

Impact TRA-4: Result in inadequate emergency access (Less than Significant Impact with Mitigation Incorporated)

Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative would require temporary closure of traffic lanes on public roadways. Construction traffic associated with the Entler Avenue Hybrid and Crouch Avenue Alternative could interfere with emergency response to the Entler Avenue Hybrid and Crouch Avenue Alternative area or evacuation procedures in the event of an emergency. Therefore, the Entler Avenue Hybrid and Crouch Avenue Alternative could result in inadequate emergency access, resulting in a significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-HAZ-6: Traffic Management Plan**), which would reduce impacts related to emergency access during construction to less than significant. Operation and maintenance activities, as described in Section 2.8, would result in increased traffic volumes on the roadways in the study area. Relative to existing traffic volumes on roadways in the study area, the addition of traffic associated with operation and maintenance of the Proposed Project would not affect roadway operations in the study area. The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in a less-than-significant impact with mitigation incorporated under this criterion.

Mitigation. To minimize potentially significant impacts related to emergency access during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-HAZ-6** will be implemented.

MM-HAZ-6: Traffic Management Plan (see Section 3.9 Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-6**, impacts related to emergency access during construction would be less than significant.

5.5.15.5 Alternatives Impact Summary

Table 5.5-15 summarizes the transportation impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-15. Alternatives Impacts Summary for Transportation

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact TRA-2: Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact TRA-4: Result in inadequate emergency access	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.16 Tribal Cultural Resources

5.5.16.1 No Project Alternative

Impact TCR-1: 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, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- **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**
- **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 will consider the significance of the resource to a California Native American tribe (No Impact)**

Under the No Project Alternative, the Town would not construct the Core or Extended Collection Systems or an Export Pipeline System and would continue to rely on individualized septic systems for wastewater management. Under the No Project Alternative, existing conditions would remain the same, and no ground disturbance or disturbance of landscape or viewshed would occur as a result of implementation of the Proposed Project. Therefore, there would be no impacts on the significance of a TCR under the No Project Alternative. The level of impact would be less than that for the Proposed

Project because the Proposed Project would result in less-than-significant impacts with mitigation incorporated on TCRs.

5.5.16.2 Entler Avenue Hybrid Alternative

Impact TCR-1: 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, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- **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**
- **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 will consider the significance of the resource to a California Native American tribe (Less than Significant Impact with Mitigation Incorporated)**

The Entler Avenue Hybrid Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.17, Tribal Cultural Resources. Consistent with the analysis for the Proposed Project, no CRHR-eligible TCRs have been identified within the Entler Avenue Hybrid Alternative area. Excavation and ground disturbing activities during construction of the Entler Avenue Hybrid Alternative have the potential to impact unknown TCRs in the Entler Avenue Hybrid Alternative area, resulting in a potentially significant impact. The Entler Avenue Hybrid Alternative would implement the same mitigation measures as the Proposed Project (**MM-TCR-1: Coordination with Konkow Valley Band of Maidu and Mechoopda Indian Tribe** and **MM-TCR-2: Tribal Cultural Monitoring**), which would reduce impacts on TCRs during construction to a less than significant level.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to impact TCRs. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Entler Avenue Hybrid Alternative would result in a less than significant impact on TCRs.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts with mitigation incorporated on TCRs.

Mitigation. To minimize potentially significant impacts on TCRs during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measures **MM-TCR-1** and **MM-TCR-2** will be implemented.

MM-TCR-1: Coordination with Konkow Valley Band of Maidu and Mechoopda Indian Tribe (see Section 3.17, Tribal Cultural Resources, for description)

MM-TCR-2: Tribal Cultural Monitoring (see Section 3.17, Tribal Cultural Resources, for description)

Significance after Mitigation. With the implementation of **MM-TCR-1** and **MM-TCR-2**, impacts resulting from inadvertent damage or destruction of unknown TCRs during construction would be less than significant.

5.5.16.3 Crouch Avenue Alternative

Impact TCR-1: 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, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- **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**
- **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 will consider the significance of the resource to a California Native American tribe (Less than Significant Impact with Mitigation Incorporated)**

The Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.17, Tribal Cultural Resources. Consistent with the analysis for the Proposed Project, no CRHR-eligible TCRs have been identified within the Crouch Avenue Alternative area. Excavation and ground disturbing activities during construction of the Crouch Avenue Alternative have the potential to impact unknown TCRs in the Crouch Avenue Alternative area, resulting in a potentially significant impact. The Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-TCR-1: Coordination with Konkow Valley Band of Maidu and Mechoopda Indian Tribe** and **MM-TCR-2: Tribal Cultural Monitoring**), which would reduce impacts on TCRs during construction to a less than significant level.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to impact TCRs. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Crouch Avenue Alternative would result in a less than significant impact on TCRs.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in less-than-significant impacts with mitigation incorporated on TCRs.

Mitigation. To minimize potentially significant impacts on TCRs during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-TCR-1** and **MM-TCR-2** will be implemented.

MM-TCR-1: Coordination with Konkow Valley Band of Maidu and Mechoopda Indian Tribe (see Section 3.17, Tribal Cultural Resources, for description)

MM-TCR-2: Tribal Cultural Monitoring (see Section 3.17, Tribal Cultural Resources, for description)

Significance after Mitigation. With the implementation of **MM-TCR-1** and **MM-TCR-2**, impacts resulting from inadvertent damage or destruction of unknown TCRs during construction would be less than significant.

5.5.16.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact TCR-1: 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, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- **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**
- **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 will consider the significance of the resource to a California Native American tribe (Less than Significant Impact with Mitigation Incorporated)**

The Entler Avenue Hybrid and Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.17, Tribal Cultural Resources. Consistent with the analysis for the Proposed Project, no CRHR-eligible TCRs have been identified within the Entler Avenue Hybrid and Crouch Avenue Alternative area. Excavation and ground disturbing activities during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative have the potential to impact unknown TCRs in the Entler Avenue Hybrid and Crouch Avenue Alternative area, resulting in a potentially significant impact. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-TCR-1: Coordination with Konkow Valley Band of Maidu and Mechoopda Indian Tribe** and **MM-TCR-2: Tribal Cultural Monitoring**), which would reduce impacts on TCRs during construction to a less than significant level.

Operation and maintenance activities, as described in Section 2.8, would not include ground disturbing activities except if there were a pipe break and a section of pipeline needed to be replaced. Operation and maintenance activities would mostly occur in previously disturbed areas (within paved roads), resulting in no potential to impact TCRs. In the case of a pipe break, the section would be repaired and returned to previous conditions as expeditiously as possible so as to limit impacts to the public and sewer service. Therefore, operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would result in a less than significant impact on TCRs.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in less-than-significant impacts with mitigation incorporated on TCRs.

Mitigation. To minimize potentially significant impacts on TCRs during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-TCR-1** and **MM-TCR-2** will be implemented.

MM-TCR-1: Coordination with Konkow Valley Band of Maidu and Mechoopda Indian Tribe (see Section 3.17, Tribal Cultural Resources, for description)

MM-TCR-2: Tribal Cultural Monitoring (see Section 3.17, Tribal Cultural Resources, for description)

Significance after Mitigation. With the implementation of **MM-TCR-1** and **MM-TCR-2**, impacts resulting from inadvertent damage or destruction of unknown TCRs during construction would be less than significant.

5.5.16.5 Alternatives Impact Summary

Table 5.5-16 summarizes the tribal cultural resources impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-16. Alternatives Impacts Summary for Tribal Cultural Resources

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact TCR-1: 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, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: • Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Public Resources code section 5020.1(k), or • 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 will consider the significance of the resource to a California Native American tribe					

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.5.17 Utilities and Service Systems

5.5.17.1 No Project Alternative

Impact UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects (No Impact)

Under the No Project Alternative, the Town would not make a regional connection to the Chico WPCP and would continue to rely on existing wastewater management. No new utility infrastructure would be required, and none would require relocation. All existing utilities would remain the same, and there would be no impact on any utilities in Paradise and the regional area. Therefore, no impact on utilities would occur, and no mitigation is required. The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would require or result in the relocation or construction of new utility infrastructure.

Mitigation. No mitigation required.

Impact UTIL-2: Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years (No Impact)

Under the No Project Alternative, the Town would not make a regional connection to the Chico WPCP and would continue to rely on existing wastewater management. The use of water supply would not be required under the No Project Alternative. Therefore, no impact on water supply would occur, and no mitigation is required. The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would impact water supplies.

Mitigation. No mitigation required.

Impact UTIL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments? (No Impact)

Under the No Project Alternative, the Town would not make a regional connection to the Chico WPCP and would continue to rely on existing wastewater management. Therefore, no impact on wastewater treatment providers would occur, and no mitigation is required. The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would impact existing wastewater commitments.

Mitigation. No mitigation required.

Impact UTIL-4: 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 (No Impact)

Under the No Project Alternative, no construction, ground disturbance, or other waste generating activities would be proposed. Therefore, there would be no impact from solid waste generation, and no mitigation is needed. The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure.

Mitigation. No mitigation required.

Impact UTIL-5: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? (No Impact)

Under the No Project Alternative, no construction, ground disturbance, or other waste generating activities would be proposed. Therefore, there would be no impact from conflicts with federal, state, and local waste management reduction statutes. The level of impact would be the same as that for the Proposed Project because neither the No Project Alternative nor the Proposed Project would conflict with federal, state, and local management and reduction statutes related to solid waste.

Mitigation. No mitigation required.

5.5.17.2 Entler Avenue Hybrid Alternative

Impact UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects (Less than Significant Impact with Mitigation Incorporated)

The Entler Avenue Hybrid Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.18, Utilities and Service Systems. Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid Alternative is within the existing capacity of the Chico WPCP and would not stress the capacity of the current system. Consistent with the analysis for the

Proposed Project, construction of the Entler Avenue Hybrid Alternative would not require relocation of wastewater facilities, electricity transmission lines, and fiber optic cables. There is potential that groundwater would be encountered during construction of the Entler Avenue Hybrid Alternative. Construction work associated with this alternative would occur near waterbodies. However, significant environmental effects would not occur because a SWPPP, which includes water quality BMPs, would be implemented to protect groundwater and water quality. Nevertheless, because utilities could be affected during construction of the Entler Avenue Hybrid Alternative, with the potential for disruption of utility service, this impact would be significant. The Entler Avenue Hybrid Alternative would implement the same mitigation measure as the Proposed Project (**MM-UTIL-1: Minimize Utility and Service System Disruptions**), which would reduce impacts on utility infrastructure during construction to less than significant. Consistent with the Proposed Project, the Entler Avenue Hybrid Alternative has the potential to foster population regrowth as a result of Camp Fire recovery efforts. However, long-term utility usage is expected to be similar to pre-Camp Fire levels and within the approved capacities for these services. This would not be a displacement or relocation of utilities, but rather part of the Town's recovery efforts. Operation and maintenance activities associated with this alternative would occur periodically throughout the year and would be minimally invasive. Therefore, operation and maintenance of the Entler Avenue Hybrid Alternative would result in no impacts on utility infrastructure.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated on utility infrastructure.

Mitigation. To minimize potentially significant impacts on utility infrastructure during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measure **MM-UTIL-1** will be implemented.

MM-UTIL-1: Minimize Utility and Service System Disruptions (see Section 3.18, Utilities and Service Systems, for description)

Significance after Mitigation. With the implementation of **MM-UTIL-1**, impacts on utility infrastructure during construction would be less than significant.

Impact UTIL-2: Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years (No Impact)

Consistent with the analysis for the Proposed Project, water supply required during construction of the Entler Avenue Hybrid Alternative would be the responsibility of the construction contractor. Water supply would only be required temporarily during the construction period. Water would be required for such activities as dust suppression, equipment washing, or contractor potable and non-potable water needs. Water use during operations and maintenance would periodically involve flushing activities, flow monitoring, and flow data and wastewater sampling, as described in Section 2.8, Proposed Operation and Maintenance. No potable water would be required during operation and maintenance of this alternative. Therefore, no impact on water supply would occur.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would impact water supply.

Mitigation. No mitigation required.

Impact UTIL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments? (No Impact)

Impacts on wastewater would be similar to those discussed for the Proposed Project in Section 3.18, Utilities and Service Systems. Wastewater would be generated during construction of the Entler Avenue Hybrid Alternative. Water encountered during pit excavation would be placed into a settling tank before being trucked to a nearby sewer main for discharge. Perched water and nuisance water encountered in trenches during construction would be collected via sump pump to a Baker Tank for settling and reused for truck dust control. Therefore, there would be no impact on wastewater during construction. Consistent with the analysis for the Proposed Project, wastewater generated during operation and maintenance of the Entler Avenue Hybrid Alternative would be within the current capacity of the Chico WPCP or within the amount agreed upon by the City of Chico. Therefore, there would be no impact on wastewater during operation and maintenance.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would impact wastewater.

Mitigation. No mitigation required.

Impact UTIL-4: 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 (No Impact)

The Entler Avenue Hybrid Alternative would generate solid waste such as construction debris, asphalt, and excess soil during construction. Solid waste would be transported to a local landfill or another approved location, such as the Neal Road Recycling Waste Facility, which has capacity to accommodate solid waste from the Entler Avenue Hybrid Alternative. Therefore, there would be no impacts related to solid waste during construction. Operation and maintenance of this alternative would not generate additional solid waste. The Entler Avenue Hybrid Alternative has the potential to foster population regrowth as a result of Camp Fire recovery efforts. However, long-term landfill usage would be similar to pre-Camp Fire levels and within the approved capacities. Therefore, there would be no impacts related to solid waste during operation and maintenance.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would result in impacts related to solid waste.

Mitigation. No mitigation required.

Impact UTIL-5: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? (No Impact)

The Entler Avenue Hybrid Alternative would comply with federal, state, and local management and reduction statutes and regulations related to solid waste that have been identified in Section 3.18, Utilities and Service Systems. Table 3.18-3, Consistency with State and Local Plans, Policies, and Regulations, provides a consistency analysis of these local management and reduction statutes and regulations. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid Alternative would not conflict with federal, state, and local solid waste regulations and statutes, and no impact would occur.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid Alternative nor the Proposed Project Entler Avenue alignment would conflict with federal, state, and local solid waste regulations and statutes.

Mitigation. No mitigation required.

5.5.17.3 Crouch Avenue Alternative

Impact UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects (Less than Significant Impact with Mitigation Incorporated)

The Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.18, Utilities and Service Systems. Consistent with the analysis for the Proposed Project, the Crouch Avenue Alternative is within the existing capacity of the Chico WPCP and would not stress the capacity of the current system. Consistent with the analysis for the Proposed Project, construction of the Crouch Avenue Alternative would not require relocation of wastewater facilities, electricity transmission lines, and fiber optic cables. There is potential that groundwater would be encountered during construction of the Crouch Avenue Alternative. Construction work associated with this alternative would occur near waterbodies. However, significant environmental effects would not occur because a SWPPP, which includes water quality BMPs, would be implemented to protect groundwater and water quality. Nevertheless, because utilities could be affected during construction of the Crouch Avenue Alternative, with the potential for disruption of utility service, this impact would be significant. The Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-UTIL-1: Minimize Utility and Service System Disruptions**), which would reduce impacts on utility infrastructure during construction to less than significant. Consistent with the Proposed Project, the Crouch Avenue Alternative has the potential to foster population regrowth as a result of Camp Fire recovery efforts. However, long-term utility usage is expected to be similar to pre-Camp Fire levels and within the approved capacities for these services. This would not be a displacement or relocation of utilities, but rather part of the Town's recovery efforts. Operation and maintenance activities associated with this alternative would occur periodically throughout the year and would be minimally invasive. Therefore, operation and maintenance of the Crouch Avenue Alternative would result in no impacts on utility infrastructure.

The level of impact would be the same as that for the Proposed Project because both the Crouch Avenue Alternative and the Proposed Project Entler Avenue alignment would result in a less-than-significant impact with mitigation incorporated on utility infrastructure.

Mitigation. To minimize potentially significant impacts on utility infrastructure during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-UTIL-1** will be implemented.

MM-UTIL-1: Minimize Utility and Service System Disruptions (see Section 3.18, Utilities and Service Systems, for description)

Significance after Mitigation. With the implementation of **MM-UTIL-1**, impacts on utility infrastructure during construction would be less than significant.

Impact UTIL-2: Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years (No Impact)

Consistent with the analysis for the Proposed Project, water supply required during construction of the Crouch Avenue Alternative would be the responsibility of the construction contractor. Water supply would only be required temporarily during the construction period. Water would be required for such activities as dust suppression, equipment washing, or contractor potable and non-potable water needs. Water use during operations and maintenance would periodically involve flushing activities, flow monitoring, and flow data and wastewater sampling, as described in Section 2.8, Proposed Operation and Maintenance. No potable water would be required during operation and maintenance of this alternative. Therefore, no impact on water supply would occur.

The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would impact water supply.

Mitigation. No mitigation required.

Impact UTIL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments? (No Impact)

Impacts on wastewater would be similar to those discussed for the Proposed Project in Section 3.18, Utilities and Service Systems. Wastewater would be generated during construction of the Crouch Avenue Alternative. Water encountered during pit excavation would be placed into a settling tank before being trucked to a nearby sewer main for discharge. Perched water and nuisance water encountered in trenches during construction would be collected via sump pump to a Baker Tank for settling and reused for truck dust control. Therefore, there would be no impact on wastewater during construction. Consistent with the analysis for the Proposed Project, wastewater generated during operation and maintenance of the Crouch Avenue Alternative would be within the current capacity of the Chico WPCP or within the amount agreed upon by the City of Chico. Therefore, there would be no impact on wastewater during operation and maintenance.

The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would impact wastewater.

Mitigation. No mitigation required.

Impact UTIL-4: 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 (No Impact)

The Crouch Avenue Alternative would generate solid waste such as construction debris, asphalt, and excess soil during construction. Solid waste would be transported to a local landfill or another approved location, such as the Neal Road Recycling Waste Facility, which has capacity to accommodate solid waste from the Crouch Avenue Alternative. Therefore, there would be no impacts related to solid waste during construction. Operation and maintenance of this alternative would not generate additional solid waste. The Crouch Avenue Alternative has the potential to foster population regrowth as a result of Camp Fire recovery efforts. However, long-term landfill usage would be similar to pre-Camp Fire levels and within the approved capacities. Therefore, there would be no impacts related to solid waste during operation and maintenance.

The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would result in impacts related to solid waste.

Mitigation. No mitigation required.

Impact UTIL-5: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste (No Impact)

The Crouch Avenue Alternative would comply with federal, state, and local management and reduction statutes and regulations related to solid waste that have been identified in Section 3.18, Utilities and Service Systems. Table 3.18-3, Consistency with State and Local Plans, Policies, and Regulations, provides a consistency analysis of these local management and reduction statutes and regulations. Therefore, construction, operation, and maintenance of the Crouch Avenue Alternative would not conflict with federal, state, and local solid waste regulations and statutes, and no impact would occur.

The level of impact would be the same as that for the Proposed Project because neither the Crouch Avenue Alternative nor the Proposed Project Entler Avenue alignment would conflict with federal, state, and local solid waste regulations and statutes.

Mitigation. No mitigation required.

5.5.17.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications

facilities, the construction or relocation of which could cause significant environmental effects (Less than Significant Impact with Mitigation Incorporated)

The Entler Avenue Hybrid and Crouch Avenue Alternative would result in similar impacts as those discussed for the Proposed Project in Section 3.18, Utilities and Service Systems. Consistent with the analysis for the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative is within the existing capacity of the Chico WPCP and would not stress the capacity of the current system. Consistent with the analysis for the Proposed Project, construction of the Entler Avenue Hybrid and Crouch Avenue Alternative would not require relocation of wastewater facilities, electricity transmission lines, and fiber optic cables. There is potential that groundwater would be encountered during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative. Construction work associated with this alternative would occur near waterbodies. However, significant environmental effects would not occur because a SWPPP, which includes water quality BMPs, would be implemented to protect groundwater and water quality. Nevertheless, because utilities could be affected during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative, with the potential for disruption of utility service, this impact would be significant. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measure as the Proposed Project (**MM-UTIL-1: Minimize Utility and Service System Disruptions**), which would reduce impacts on utility infrastructure during construction to less than significant. Consistent with the Proposed Project, the Entler Avenue Hybrid and Crouch Avenue Alternative has the potential to foster population regrowth as a result of Camp Fire recovery efforts. However, long-term utility usage is expected to be similar to pre-Camp Fire levels and within the approved capacities for these services. This would not be a displacement or relocation of utilities, but rather part of the Town's recovery efforts. Operation and maintenance activities associated with this alternative would occur periodically throughout the year and would be minimally invasive. Therefore, operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would result in no impacts on utility infrastructure.

The level of impact would be the same as that for the Proposed Project because both the Entler Avenue Hybrid and Crouch Avenue Alternative and the Proposed Project alignment would result in a less-than-significant impact with mitigation incorporated on utility infrastructure.

Mitigation. To minimize potentially significant impacts on utility infrastructure during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measure **MM-UTIL-1** will be implemented.

MM-UTIL-1: Minimize Utility and Service System Disruptions (see Section 3.18, Utilities and Service Systems, for description)

Significance after Mitigation. With the implementation of **MM-UTIL-1**, impacts on utility infrastructure during construction would be less than significant.

Impact UTIL-2: Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years (No Impact)

Consistent with the analysis for the Proposed Project, water supply required during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative would be the responsibility of the construction

contractor. Water supply would only be required temporarily during the construction period. Water would be required for such activities as dust suppression, equipment washing, or contractor potable and non-potable water needs. Water use during operations and maintenance would periodically involve flushing activities, flow monitoring, and flow data and wastewater sampling, as described in Section 2.8, Proposed Operation and Maintenance. No potable water would be required during operation and maintenance of this alternative. Therefore, no impact on water supply would occur.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project alignment would impact water supply.

Mitigation. No mitigation required.

Impact UTIL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments (No Impact)

Impacts on wastewater would be similar to those discussed for the Proposed Project in Section 3.18, Utilities and Service Systems. Wastewater would be generated during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative. Water encountered during pit excavation would be placed into a settling tank before being trucked to a nearby sewer main for discharge. Perched water and nuisance water encountered in trenches during construction would be collected via sump pump to a Baker Tank for settling and reused for truck dust control. Therefore, there would be no impact on wastewater during construction. Consistent with the analysis for the Proposed Project, wastewater generated during operation and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would be within the current capacity of the Chico WPCP or within the amount agreed upon by the City of Chico. Therefore, there would be no impact on wastewater during operation and maintenance.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project alignment would impact wastewater.

Mitigation. No mitigation required.

Impact UTIL-4: 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 (No Impact)

The Entler Avenue Hybrid and Crouch Avenue Alternative would generate solid waste such as construction debris, asphalt, and excess soil during construction. Solid waste would be transported to a local landfill or another approved location, such as the Neal Road Recycling Waste Facility, which has capacity to accommodate solid waste from the Entler Avenue Hybrid and Crouch Avenue Alternative. Therefore, there would be no impacts related to solid waste during construction. Operation and maintenance of this alternative would not generate additional solid waste. The Entler Avenue Hybrid and Crouch Avenue Alternative has the potential to foster population regrowth as a result of Camp Fire recovery efforts. However, long-term landfill usage would be similar to pre-Camp Fire levels and within

the approved capacities. Therefore, there would be no impacts related to solid waste during operation and maintenance.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project alignment would result in impacts related to solid waste.

Mitigation. No mitigation required.

Impact UTIL-5: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste (No Impact)

The Entler Avenue Hybrid and Crouch Avenue Alternative would comply with federal, state, and local management and reduction statutes and regulations related to solid waste that have been identified in Section 3.18, Utilities and Service Systems. Table 3.18-3, Consistency with State and Local Plans, Policies, and Regulations, provides a consistency analysis of these local management and reduction statutes and regulations. Therefore, construction, operation, and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not conflict with federal, state, and local solid waste regulations and statutes, and no impact would occur.

The level of impact would be the same as that for the Proposed Project because neither the Entler Avenue Hybrid and Crouch Avenue Alternative nor the Proposed Project alignment would conflict with federal, state, and local solid waste regulations and statutes.

Mitigation. No mitigation required.

5.5.17.5 Alternatives Impact Summary

Table 5.5-17 summarizes the utilities and service systems impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-17. Alternatives Impacts Summary for Utilities and Service Systems

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact UTIL-2: Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years	NI	NI (=)	NI (=)	NI (=)	NI (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact UTIL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact UTIL-4: 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	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact UTIL-5: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste	NI	NI (=)	NI (=)	NI (=)	NI (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project Wildfire

5.5.18 Wildfire

5.5.18.1 No Project Alternative

Impact FIRE-1: Substantially impair an adopted emergency response plan or emergency evacuation plan (No Impact)

Under the No Project Alternative, existing conditions would remain the same, and no construction is proposed. Therefore, the No Project Alternative would not impair an adopted emergency response plan or emergency evacuation plan, and no impact would occur. The level of impact would be less than that for the Proposed Project because the Proposed Project would result in a less-than-significant impact with mitigation incorporated on this criterion.

Mitigation. No mitigation required.

Impact FIRE-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire (No Impact)

Under the No Project Alternative existing conditions would not change. No construction, operations or maintenance would occur that would exacerbate wildfire risk due to slope, prevailing winds and other factors in the study area. Therefore, no impact would occur.

Mitigation. No mitigation required.

Impact FIRE-3: 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 (No Impact)

Under the No Project Alternative, no installation or maintenance of associated infrastructure is proposed. Conditions in the study area would not change. Therefore, fire risk would not be exacerbated, and no impact would occur.

Mitigation. No mitigation required.

Impact FIRE-4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes (No Impact)

Under the No Project Alternative, existing conditions would not change, and no construction and operational activities are proposed. Therefore, the No Project Alternative would not expose people or structures to significant risks, including downslope or downstream flooding or landslides. There would be no impact.

Mitigation. No mitigation required.

5.5.18.2 Entler Avenue Hybrid Alternative

Impact FIRE-1: Substantially impair an adopted emergency response plan or emergency evacuation plan (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project, no total road closures are proposed under the Entler Avenue Hybrid Alternative other than temporary movement of equipment. Portions of the alternative would be located along Skyway, which is a primary evacuation route. Closures within the ROW would be partial, however, in the event of a wildfire, all four lanes would be needed for evacuation along Skyway. Therefore, during construction impacts to an emergency response plan or emergency evacuation plan would be significant. The Entler Avenue Hybrid Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-3: Road Closure Restrictions, MM-HAZ-4: Rapid Demobilization Plan, MM-HAZ-5: Evacuation Warning Procedures** and **MM-HAZ-6: Traffic Management Plan**), which would reduce impacts on an emergency response plan or emergency evacuation plan to a less than significant level.

Operations and maintenance activities would not involve the presence or operation of equipment on roads for extended periods of time. As described in Section, 3.16, Transportation, the addition of traffic associated with operation and maintenance of the Entler Avenue Hybrid Alternative would not affect roadway operations in the study area. As such, operation and maintenance activities would have no impact on an adopted emergency response plan or emergency evacuation route.

The level of impact would be the same as that for the Proposed Project because impacts on an emergency response plan or emergency evacuation plan would be less than significant with mitigation incorporated for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative.

Mitigation. To minimize potentially significant impacts on emergency response or emergency evacuation plan during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measures **MM-HAZ-3**, **MM-HAZ-4**, **MM-HAZ-5**, and **MM-HAZ-6** will be implemented.

MM-HAZ-3: Road Closure Restrictions (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-4: Rapid Demobilization Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-5: Evacuation Warning Procedures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-3**, **MM-HAZ-4**, **MM-HAZ-5**, and **MM-HAZ-6**, impacts on an emergency response or evacuation plan would be less than significant.

Impact FIRE-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire (Less than Significant Impact with Mitigation Incorporated)

Portions of the Entler Avenue Hybrid Alternative are located in Very High FHSZs. Operation and fueling of construction equipment in Very High FHSZs could create fire hazards in the study area. Hazardous materials would also be used, transported and disposed of during construction activities. The Town would comply with all relevant federal, state, and local statutes and regulations related to the transport, use, storage, or disposal of hazardous materials associated with construction activities, and all materials designated for disposal would be evaluated for appropriate state and federal hazardous waste criteria and properly disposed of according to their classifications. However, because the alternative is located in a Very High FHSZ, the potential for wildfire exists during construction. Therefore, this impact is considered significant. The Entler Avenue Hybrid Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-1: Vehicle Equipment Access and Fueling, MM-HAZ-7: Incorporate Fire Prevention Measures, MM-HAZ-8: Incorporate Public Safety Measures**, and **MM-HAZ-9: Wildland Fire Area**), which would reduce impacts to a less than significant level.

Operations and maintenance would not require the use of heavy equipment, fueling, or other activities likely to create an additional fire hazard. Operation and maintenance activities would not exacerbate wildfire risk in the study area because these activities would not occur adjacent to wildland areas. Additionally, fire suppression equipment would be made available during operation and maintenance and Chico WPCP would continue to comply with existing fire codes. As a result, impacts from exacerbating fire risks during operation and maintenance would be less than significant.

The level of impact would be the same as that for the Proposed Project because impacts on wildfire risks due to slope, prevailing winds, or other factors would be less than significant with mitigation

incorporated for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative.

Mitigation. To minimize potentially significant impacts from exacerbating wildfire risk in the study area during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measures **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9** will be implemented.

MM-HAZ-1: Vehicle Equipment Access and Fueling (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-7: Incorporate Fire Prevention Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-8: Incorporate Public Safety Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-9. Wildland Fire Area (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9**, impacts from wildfire risk due to slope, prevailing winds, and other factors would be less than significant.

Impact FIRE-3: 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 (Less than Significant Impact with Mitigation Incorporated)

The Entler Avenue Hybrid Alternative would involve the construction of an Export Pipeline System. As discussed under Impact FIRE-2, portions of the study area are located in Very High FHSZs. Construction activities such as operation and fueling of construction equipment in Very High FHSZs could create fire hazards in the study area. Therefore, impacts during construction would be significant. The Entler Avenue Hybrid Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-1: Vehicle Equipment Access and Fueling, MM-HAZ-7: Incorporate Fire Prevention Measures, MM-HAZ-8: Incorporate Public Safety Measures**, and **MM-HAZ-9: Wildland Fire Area**), which would reduce impacts to a less than significant level. Operation and maintenance activities including the inspection of the Export Pipeline System and associated instrumentation, and flow data sampling would not require the use of heavy equipment, fueling, or other activities likely to create an additional fire hazard. Additionally, operation and maintenance activities would not exacerbate wildfire risk in the study area because these activities would not occur adjacent to wildland areas. Therefore, impacts from operation and maintenance of utility infrastructure would be less than significant.

The level of impact would be the same as that for the Proposed Project because impacts from the installation or maintenance of associated infrastructure that may exacerbate fire risk would be less than significant with mitigation incorporated for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative.

Mitigation. To minimize potentially significant impacts on wildfire from installation or maintenance of utility infrastructure during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measures **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9** will be implemented.

MM-HAZ-1: Vehicle Equipment Access and Fueling (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-7: Incorporate Fire Prevention Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-8: Incorporate Public Safety Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-9. Wildland Fire Area (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9**, impacts from the installation or maintenance of associated infrastructure that may exacerbate wildfire risk would be less than significant.

Impact FIRE-4: 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 (Less than Significant Impact with Mitigation Incorporated)

Paradise is located on a broad and gently sloping ridge, while Chico is predominantly flat. Installation of the Export Pipeline System would require installation via trenching or open cut methods within the Town's roadway ROWs. Given the sloped topography of the Town and ground disturbing activities that could create runoff or temporarily alter drainage patterns, impacts would be significant during construction. The Entler Avenue Hybrid Alternative would implement the same mitigation measures as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan, MM-HYD-3: Flood Protection Plan,** and **MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts to a less than significant level.

Operation and maintenance activities, as described in Section 2.8, would not involve activities that create runoff or alter drainage. Additionally, operation and maintenance activities would not exacerbate wildfire risk in the study area because these activities would not occur adjacent to wildland areas. As a result, operations and maintenance of the Entler Avenue Hybrid Alternative would not expose people or structures to significant risks, including downslope or downstream flooding or landslides and there would be no impact.

The level of impact would be the same as that for the Proposed Project because impacts from exposing people or structure to significant risks, including downslope or downstream flooding or landslides would be less than significant with mitigation incorporated for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid Alternative.

Mitigation. To minimize significant impacts on post-fire slope instability, or drainage changes during construction of the Entler Avenue Hybrid Alternative to a less than significant level, mitigation measures **MM-HYD-1**, **MM-HYD-3**, and **MM-GEO-1** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

MM-HYD-3: Flood Protection Plan (see Section 3.10, Hydrology and Water Quality, for description)

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-HYD-1**, **MM-HYD-3**, and **MM-GEO-1** , impacts from the exposure of people or structures to significant risks, including downslope or downstream flooding or landslides would be less than significant.

5.5.18.3 Crouch Avenue Alternative

Impact FIRE-1: Substantially impair an adopted emergency response plan or emergency evacuation plan (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project, no total road closures are proposed under the Crouch Avenue Alternative other than temporary movement of equipment. Portions of the alternative would be located along Skyway, which is a primary evacuation route. Closures within the ROW would be partial, however, in the event of a wildfire, all four lanes would be needed for evacuation along Skyway. Therefore, during construction impacts to an emergency response plan or emergency evacuation plan would be significant. The Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-3: Road Closure Restrictions, MM-HAZ-4: Rapid Demobilization Plan, MM-HAZ-5: Evacuation Warning Procedures** and **MM-HAZ-6: Traffic Management Plan**), which would reduce impacts on an emergency response plan or emergency evacuation plan to a less than significant level.

Operations and maintenance activities would not involve the presence or operation of equipment on roads for extended periods of time. As described in Section, 3.16, Transportation, the addition of traffic associated with operation and maintenance of the Crouch Avenue Alternative would not affect roadway operations in the study area. As such, operation and maintenance activities would have no impact on an adopted emergency response plan or emergency evacuation route.

The level of impact would be the same as that for the Proposed Project because impacts on an emergency response plan or emergency evacuation plan would be less than significant with mitigation incorporated for both the Proposed Project Entler Avenue alignment and the Crouch Alternative.

Mitigation. To minimize potentially significant impacts on emergency response or emergency evacuation plan during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HAZ-3**, **MM-HAZ-4**, **MM-HAZ-5**, and **MM-HAZ-6** will be implemented.

MM-HAZ-3: Road Closure Restrictions (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-4: Rapid Demobilization Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-5: Evacuation Warning Procedures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-3**, **MM-HAZ-4**, **MM-HAZ-5**, and **MM-HAZ-6**, impacts on an adopted emergency response plan or emergency evacuation plan would be less than significant.

Impact FIRE-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire (Less than Significant Impact with Mitigation Incorporated)

Portions of the Crouch Avenue Alternative are located in Very High FHSZs. Operation and fueling of construction equipment in Very High FHSZs could create fire hazards in the study area. Hazardous materials would also be used, transported and disposed of during construction activities. The Town would comply with all relevant federal, state, and local statutes and regulations related to the transport, use, storage, or disposal of hazardous materials associated with construction activities, and all materials designated for disposal would be evaluated for appropriate state and federal hazardous waste criteria and properly disposed of according to their classifications. However, because the alternative is located in a Very High FHSZ, the potential for wildfire exists during construction. Therefore, this impact is considered significant. The Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-1: Vehicle Equipment Access and Fueling, MM-HAZ-7: Incorporate Fire Prevention Measures, MM-HAZ-8: Incorporate Public Safety Measures**, and **MM-HAZ-9: Wildland Fire Area**), which would reduce impacts to a less than significant level. Operations and maintenance would not require the use of heavy equipment, fueling, or other activities likely to create an additional fire hazard. Operation and maintenance activities would not exacerbate wildfire risk in the study area because these activities would not occur adjacent to wildland areas. Additionally, fire suppression equipment would be made available during operation and maintenance and Chico WPCP would continue to comply with existing fire codes. As a result, impacts from exacerbating fire risks during operation and maintenance would be less than significant.

The level of impact would be the same as that for the Proposed Project because impacts on wildfire risks due to slope, prevailing winds, or other factors would be less than significant with mitigation incorporated for both the Proposed Project Entler Avenue alignment and the Crouch Avenue Alternative.

Mitigation. To minimize potentially significant impacts from exacerbating wildfire risk in the study area during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9** will be implemented.

MM-HAZ-1: Vehicle Equipment Access and Fueling (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-7: Incorporate Fire Prevention Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-8: Incorporate Public Safety Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-9. Wildland Fire Area (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With implementation of **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9**, impacts from wildfire risk due to slope, prevailing winds, and other factors would be less than significant.

Impact FIRE-3: 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 (Less than Significant Impact with Mitigation Incorporated)

The Crouch Avenue Alternative would involve the construction of an Export Pipeline System. As discussed under Impact FIRE-2, portions of the study area are located in Very High FHSZs. Construction activities such as operation and fueling of construction equipment in Very High FHSZs could create fire hazards in the study area. Therefore, impacts during construction would be significant. The Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-1: Vehicle Equipment Access and Fueling, MM-HAZ-7: Incorporate Fire Prevention Measures, MM-HAZ-8: Incorporate Public Safety Measures**, and **MM-HAZ-9: Wildland Fire Area**), which would reduce impacts to a less than significant level.

Operation and maintenance activities including the inspection of the Export Pipeline System and associated instrumentation, and flow data sampling would not require the use of heavy equipment, fueling, or other activities likely to create an additional fire hazard. Additionally, operation and maintenance activities would not exacerbate wildfire risk in the study area because these activities would not occur adjacent to wildland areas. Therefore, impacts from operation and maintenance of utility infrastructure would be less than significant.

The level of impact would be the same as that for the Proposed Project because impacts from the installation or maintenance of associated infrastructure that may exacerbate fire risk would be less than significant with mitigation incorporated for both the Proposed Project Entler Avenue alignment and the Crouch Avenue Alternative.

Mitigation. To minimize potentially significant impacts on wildfire from installation or maintenance of utility infrastructure during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9** will be implemented.

MM-HAZ-1: Vehicle Equipment Access and Fueling (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-7: Incorporate Fire Prevention Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-8: Incorporate Public Safety Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-9. Wildland Fire Area (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9**, impacts from the installation or maintenance of associated infrastructure would be less than significant.

Impact FIRE-4: 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 (Less than Significant Impact with Mitigation Incorporated)

Paradise is located on a broad and gently sloping ridge, while Chico is predominantly flat. Installation of the Export Pipeline System would require installation via trenching or open cut methods within the Town's roadway ROWs. Given the sloped topography of the Town and ground disturbing activities that could create runoff or temporarily alter drainage patterns, impacts would be significant during construction. The Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan, MM-HYD-3: Flood Protection Plan,** and **MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts to a less than significant level.

Operation and maintenance activities, as described in Section 2.8, would not involve activities that create runoff or alter drainage. Additionally, operation and maintenance activities would not exacerbate wildfire risk in the study area because these activities would not occur adjacent to wildland areas. As a result, operations and maintenance of the Crouch Avenue Alternative would not expose people or structures to significant risks, including downslope or downstream flooding or landslides and there would be no impact.

The level of impact would be the same as that for the Proposed Project because impacts from exposing people or structure to significant risks, including downslope or downstream flooding or landslides would be less than significant with mitigation incorporated for both the Proposed Project Entler Avenue alignment and the Crouch Avenue Alternative.

Mitigation. To minimize significant impacts on post-fire slope instability, or drainage changes during construction of the Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HYD-1**, **MM-HYD-3**, and **MM-GEO-1** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10 Hydrology and Water Quality, for description)

MM-HYD-3: Flood Protection Plan (see Section 3.10, Hydrology and Water Quality, for description)

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-HYD-1**, **MM-HYD-3**, and **MM-GEO-1**, impacts from the exposure of people or structures to significant risks, including downslope or downstream flooding or landslides would be less than significant.

5.5.18.4 Entler Avenue Hybrid and Crouch Avenue Alternative

Impact FIRE-1: Substantially impair an adopted emergency response plan or emergency evacuation plan (Less than Significant Impact with Mitigation Incorporated)

Consistent with the Proposed Project, no total road closures are proposed under the Entler Avenue Hybrid and Crouch Avenue Alternative other than temporary movement of equipment. Portions of the alternative would be located along Skyway, which is a primary evacuation route. Closures within the ROW would be partial, however, in the event of a wildfire, all four lanes would be needed for evacuation along Skyway. Therefore, during construction impacts to an emergency response plan or emergency evacuation plan would be significant. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-3: Road Closure Restrictions, MM-HAZ-4: Rapid Demobilization Plan, MM-HAZ-5: Evacuation Warning Procedures** and **MM-HAZ-6: Traffic Management Plan**), which would reduce impacts on an emergency response plan or emergency evacuation plan to a less than significant level.

Operations and maintenance activities would not involve the presence or operation of equipment on roads for extended periods of time. As described in Section, 3.16, Transportation, the addition of traffic associated with operation and maintenance of the Crouch Avenue Alternative would not affect roadway operations in the study area. As such, operation and maintenance activities would have no impact on an adopted emergency response plan or emergency evacuation route.

The level of impact would be the same as that for the Proposed Project because impacts on an emergency response plan or emergency evacuation plan would be less than significant with mitigation incorporated for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid and Crouch Avenue Alternative.

Mitigation. To minimize potentially significant impacts on emergency response or emergency evacuation plan during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HAZ-3**, **MM-HAZ-4**, **MM-HAZ-5**, and **MM-HAZ-6** will be implemented.

MM-HAZ-3: Road Closure Restrictions (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-4: Rapid Demobilization Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-5: Evacuation Warning Procedures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-6: Traffic Management Plan (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-3**, **MM-HAZ-4**, **MM-HAZ-5**, and **MM-HAZ-6**, impacts on an emergency response or evacuation plan would be less than significant.

Impact FIRE-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire (Less than Significant Impact with Mitigation Incorporated)

Portions of the Entler Avenue Hybrid and Crouch Avenue Alternative are located in Very High FHSZs. Operation and fueling of construction equipment in Very High FHSZs could create fire hazards in the study area. Hazardous materials would also be used, transported and disposed of during construction activities. The Town would comply with all relevant federal, state, and local statutes and regulations related to the transport, use, storage, or disposal of hazardous materials associated with construction activities, and all materials designated for disposal would be evaluated for appropriate state and federal hazardous waste criteria and properly disposed of according to their classifications. However, because the alternative is located in a Very High FHSZ, the potential for wildfire exists during construction. Therefore, this impact is considered significant. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-1: Vehicle Equipment Access and Fueling, MM-HAZ-7: Incorporate Fire Prevention Measures, MM-HAZ-8: Incorporate Public Safety Measures**, and **MM-HAZ-9: Wildland Fire Area**), which would reduce impacts to a less than significant level.

Operations and maintenance would not require the use of heavy equipment, fueling, or other activities likely to create an additional fire hazard. Operation and maintenance activities would not exacerbate wildfire risk in the study area because these activities would not occur adjacent to wildland areas. Additionally, fire suppression equipment would be made available during operation and maintenance and Chico WPCP would continue to comply with existing fire codes. As a result, impacts from exacerbating fire risks during operation and maintenance would be less than significant.

The level of impact would be the same as that for the Proposed Project because impacts on wildfire risks due to slope, prevailing winds, or other factors would be less than significant with mitigation incorporated for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid and Crouch Avenue Alternative.

Mitigation. To minimize potentially significant impacts from exacerbating wildfire risk in the study area during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9** will be implemented.

MM-HAZ-1: Vehicle Equipment Access and Fueling (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-7: Incorporate Fire Prevention Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-8: Incorporate Public Safety Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-9. Wildland Fire Area (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9**, impacts from wildfire risk due to slope, prevailing winds, and other factors would be less than significant.

Impact FIRE-3: 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 (Less than Significant Impact with Mitigation Incorporated)

The Entler Avenue Hybrid and Crouch Avenue Alternative would involve the construction of an Export Pipeline System. As discussed under Impact FIRE-2, portions of the study area are located in Very High FHSZs. Construction activities such as operation and fueling of construction equipment in Very High FHSZs could create fire hazards in the study area. Therefore, impacts during construction would be significant. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HAZ-1: Vehicle Equipment Access and Fueling, MM-HAZ-7: Incorporate Fire Prevention Measures, MM-HAZ-8: Incorporate Public Safety Measures**, and **MM-HAZ-9: Wildland Fire Area**), which would reduce impacts to a less than significant level.

Operation and maintenance activities including the inspection of the Export Pipeline System and associated instrumentation, and flow data sampling would not require the use of heavy equipment, fueling, or other activities likely to create an additional fire hazard. Additionally, operation and maintenance activities would not exacerbate wildfire risk in the study area because these activities would not occur adjacent to wildland areas. Therefore, impacts from operation and maintenance of utility infrastructure would be less than significant.

The level of impact would be the same as that for the Proposed Project because impacts from the installation or maintenance of associated infrastructure that may exacerbate fire risk would be less than significant with mitigation incorporated for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid and Crouch Avenue Alternative.

Mitigation. To minimize potentially significant impacts on wildfire from installation or maintenance of utility infrastructure during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9** will be implemented.

MM-HAZ-1: Vehicle Equipment Access and Fueling (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-7: Incorporate Fire Prevention Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-8: Incorporate Public Safety Measures (see Section 3.9, Hazards and Hazardous Materials, for description)

MM-HAZ-9. Wildland Fire Area (see Section 3.9, Hazards and Hazardous Materials, for description)

Significance after Mitigation. With the implementation of **MM-HAZ-1**, **MM-HAZ-7**, **MM-HAZ-8**, and **MM-HAZ-9**, impacts from the installation or maintenance of associated infrastructure that may exacerbate wildfire risk would be less than significant.

Impact FIRE-4: 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 (Less than Significant Impact with Mitigation Incorporated)

Paradise is located on a broad and gently sloping ridge, while Chico is predominantly flat. Installation of the Export Pipeline System would require installation via trenching or open cut methods within the Town's roadway ROWs. Given the sloped topography of the Town and ground disturbing activities that could create runoff or temporarily alter drainage patterns, impacts would be significant during construction. The Entler Avenue Hybrid and Crouch Avenue Alternative would implement the same mitigation measures as the Proposed Project (**MM-HYD-1: Stormwater Management and Treatment Plan, MM-HYD-3: Flood Protection Plan,** and **MM-GEO-1: Minimize Geologic Hazards**), which would reduce impacts to a less than significant level.

Operation and maintenance activities, as described in Section 2.8, would not involve activities that create runoff or alter drainage. Additionally, operation and maintenance activities would not exacerbate wildfire risk in the study area because these activities would not occur adjacent to wildland areas. As a result, operations and maintenance of the Entler Avenue Hybrid and Crouch Avenue Alternative would not expose people or structures to significant risks, including downslope or downstream flooding or landslides and there would be no impact.

The level of impact would be the same as that for the Proposed Project because impacts from exposing people or structure to significant risks, including downslope or downstream flooding or landslides would be less than significant with mitigation incorporated for both the Proposed Project Entler Avenue alignment and the Entler Avenue Hybrid and Crouch Avenue Alternative.

Mitigation. To minimize significant impacts on post-fire slope instability, or drainage changes during construction of the Entler Avenue Hybrid and Crouch Avenue Alternative to a less than significant level, mitigation measures **MM-HYD-1**, **MM-HYD-3**, and **MM-GEO-1** will be implemented.

MM-HYD-1: Stormwater Management and Treatment Plan (see Section 3.10, Hydrology and Water Quality, for description)

MM-HYD-3: Flood Protection Plan (see Section 3.10, Hydrology and Water Quality, for description)

MM-GEO-1: Minimize Geologic Hazards (see Section 3.7, Geology, Soils, and Paleontological Resources, for description)

Significance after Mitigation. With the implementation of **MM-HYD-1**, **MM-HYD-3**, and **MM-GEO-1**, impacts from the exposure of people or structures to significant risks, including downslope or downstream flooding or landslides would be less than significant.

5.5.18.5 Alternatives Impact Summary

Table 5.5-18 summarizes the wildfire impacts of the alternatives and a comparison to the Proposed Project.

Table 5.5-18. Alternatives Impacts Summary for Wildfire

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact FIRE-1: Substantially impair an adopted emergency response plan or emergency evacuation plan	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact FIRE-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact FIRE-3: 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	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact FIRE-4: 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	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Notes: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.6 Comparison of Proposed Project and Alternative Impacts

Table 5.6-1 summarizes the impacts of the alternatives and compares it with the Proposed Project impacts.

Table 5.6-1. Comparison of Proposed Project and Alternative Impacts

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Agriculture and Forestry Resources					
Impact AG-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact AG-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact AG-3: 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))	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact AG-4: Result in the loss of forest land or conversion of forest land to non-forest use	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact AG-5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or conversion of forest land to non-forest use	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Air Quality					
Impact AIR-1: Conflict with or obstruct implementation of an applicable air quality plan	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact AIR-2: 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	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact AIR-4: Result in other emissions, such as those leading to odors, adversely affecting a substantial number of people	LTS	LTS (+)	LTS (=)	LTS (=)	LTS (=)
Biological Resources					
Impact BIO-1: 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 CDFW or USFWS	S/M	NI (-)	S/M (+)	S/M (=)	S/M (+)
Impact BIO-2: Substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS	S/M	NI (-)	S/M (+)	S/M (=)	S/M (+)
Impact BIO-3: Substantial adverse effect on state or federally protected wetlands	S/M	NI (-)	NI (-)	S/M (+)	S/M (+)
Impact BIO-4: Interfere substantially with the movement of any native resident or migratory	NI	NI (=)	NI (=)	NI (=)	NI (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites					
Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan	NI	NI (=)	NI (=)	NI (=)	NI (=)
Cultural Resources					
Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to section 15064.5	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact CUL-2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to section 15064.5	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Energy					
Impact ENG-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact ENG-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency	NI	NI (=)	NI (=)	NI (=)	NI (=)
Geology, Soils, and Paleontological Resources					
Impact GEO-1(a): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact GEO-1(b): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Strong seismic ground shaking	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact GEO-1(c): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Seismic-related ground failure, including liquefaction	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact GEO-1(d): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: Landslides	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact GEO-2: Result in substantial soil erosion or the loss of topsoil	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Impact GEO-3: 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	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact GEO-4: Be located on expansive soil, as defined in Table 18-1B of the Uniform Building Code (1994), creating substantial direct or indirect risk to life or property	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact GEO-5: 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	NI	SU (+)	NI (=)	NI (=)	NI (=)
Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Greenhouse Gas Emissions					
Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reduction the emissions of GHG	NI	NI (=)	NI (=)	NI (=)	NI (=)
Hazards and Hazardous Materials					
Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HAZ-2: 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	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact HAZ-4: 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	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HAZ-5: 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	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
loss, injury or death involving wildland fires					
Hydrology and Water Quality					
Impact HYD-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	S/M	SU (+)	S/M (=)	S/M (=)	S/M (=)
Impact HYD-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact HYD-3(a): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Result in substantial erosion or siltation on or off-site	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HYD-3(b): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HYD-3(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: Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact HYD-3(d): Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: Impede or redirect flood flows	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact HYD-4: In flood hazard, risk release of pollutants due to Project inundation	S/M	SU (+)	S/M (=)	S/M (=)	S/M (=)
Impact HYD-5: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan	S/M	SU (+)	S/M (=)	S/M (=)	S/M (=)
Land Use and Planning					
Impact LU-1: Physically divide an established community	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact LU-2: Cause any 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	NI	NI (=)	NI (=)	NI (=)	NI (=)
Noise and Groundborne Vibration					
Impact NSE-1: Generate a substantial temporary or permanent increase in ambient noise	S/M	NI (-)	S/M (=)	S/M (-)	S/M (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or in applicable standards of other agencies					
Impact NSE-2: Generate excessive groundborne vibration or groundborne noise levels	S/M	NI (-)	S/M (=)	S/M (-)	S/M (=)
Impact NSE-3: Be located within the vicinity of a private airstrip or an airport land-use plan or, where such a plan has not been adopted, within two miles of a public airport or public-use airport, expose people residing or working in the Project area to excessive noise levels	LTS	NI (-)	NI (-)	LTS (+)	LTS (+)
Population and Housing					
Impact POP-1: Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact POP-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere	NI	NI (=)	NI (=)	NI (=)	NI (=)
Public Services					
Impact PS-1(a): Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services: Fire Protection	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact PS-1(b): 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 following public services: Police Protection	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact PS-1(c): 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 following public services: Schools	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact PS-1(d): 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 following public services: Other Public Facilities	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
Recreation					
Impact REC-1: 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	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Transportation					
Impact TRA-1: Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact TRA-2: Conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)	LTS	NI (-)	LTS (=)	LTS (=)	LTS (=)
Impact TRA-3: Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact TRA-4: Result in inadequate emergency access	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Tribal Cultural Resources					
Impact TCR-1: Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: • Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or • A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Utilities and Service Systems					
Impact UTIL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact UTIL-2: Have sufficient water supplies available to serve the Project and reasonably	NI	NI (=)	NI (=)	NI (=)	NI (=)

Impact	Proposed Project	No Project Alternative	Entler Avenue Hybrid Alternative	Crouch Avenue Alternative	Entler Avenue Hybrid and Crouch Avenue Alternative
foreseeable future development during normal, dry and multiple dry years					
Impact UTIL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact UTIL-4: 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	NI	NI (=)	NI (=)	NI (=)	NI (=)
Impact UTIL-5: Comply with federal, state, and local management and reduction statutes and regulations related to solid waste	NI	NI (=)	NI (=)	NI (=)	NI (=)
Wildfire					
Impact FIRE-1: Substantially impair an adopted emergency response plan or emergency evacuation plan	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact FIRE-2: Exacerbate wildfire risks due to slope, prevailing winds, and other factors, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact FIRE-3: 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	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)
Impact FIRE-4: 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	S/M	NI (-)	S/M (=)	S/M (=)	S/M (=)

Note: LTS = Less than Significant Impact, NI = No Impact, N/A = Not Applicable, SU = Significant and Unavoidable Impact, S/M = Significant Impact but Mitigable to a Less than Significant Level, (+) indicates a greater level of impacts compared to the Proposed Project; (-) indicates less impacts compared the Proposed Project; (=) indicates the same level of impacts as the Proposed Project

5.7 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6 requires that an "environmentally superior" alternative be selected among the alternatives that are evaluated in the EIR. Generally, the environmentally superior alternative is the alternative that would be expected to generate the fewest adverse impacts. For the purpose of this analysis, the alternatives considered are:

- Proposed Project
- No Project
- Entler Avenue Hybrid Alternative –Proposed Project with alternative pipeline alignment for crossing SR 99
- Crouch Avenue Alternative – Proposed Project with alternative export pipeline alignment for crossing Little Chico Creek.
- Entler Avenue Hybrid and Crouch Avenue Alternative – Proposed Project with alternative pipeline alignment for crossing SR 99 and alternative pipeline alignment for crossing Little Chico Creek.

While the No Project Alternative would result in the fewest number of impacts when compared to the Proposed Project and alternatives, the No Project Alternative was the only alternative that would result in significant and unavoidable impacts. Significant and unavoidable impacts from the No Project Alternative would occur under geology, soils, and paleontological resources; and hydrology and water quality. All impacts associated with the No Project Alternative are attributed to the risks associated with continued use of individual septic systems and the potential for system failures and leakages.

This section summarizes the different impacts from the Proposed Project and action alternatives (that is, Entler Avenue Hybrid Alternative, Crouch Avenue Alternative, and Entler Avenue Hybrid and Crouch Avenue Alternative). The comparison focuses on air quality, biological resources, and noise and groundborne vibration because these were the resources that resulted in minor differences in the level of impacts amongst alternatives. However, as shown in Table 5.6-1, with mitigation incorporated, the Proposed Project and all action alternatives result in less than significant impacts or no impact for all resource areas; there are no significant and unavoidable impacts identified for the Proposed Project or any of the action alternatives.

Air Quality. Impacts on air quality would be lowest under the Crouch Avenue Alternative because sensitive receptors would be located farther from construction activities and resulting construction emissions than the Proposed Project and other alternatives. Sensitive receptors are located within 60 feet of the Crouch Avenue Alternative, while sensitive receptors are located within 50 feet of the Proposed Project, Entler Avenue Hybrid Alternative, and the Entler Avenue Hybrid and Crouch Avenue Alternative. (Google Earth 2022) However, with implementation of the proposed mitigation measures, impacts under the Proposed Project and all action alternatives would be less than significant.

Noise and Groundborne Vibration. Similar to the results of the air quality analysis, noise and groundborne vibration impacts would be lowest under the Crouch Avenue Alternative when compared to the Proposed Project and other alternatives because of the distance of sensitive receptors from construction activities. As it relates to impacts from being located within two miles of an airport or within

an airport land use plan, the Entler Avenue Hybrid Alternative would result in the lowest level of impacts. The Entler Avenue Hybrid Alternative is not located within an airport land use plan or within two miles of a public or private airport, while the other alternatives would meet at least one of these criteria. (Google Earth 2022). However, with implementation of the proposed mitigation measures, impacts under the Proposed Project and all action alternatives would be less than significant.

Biological Resources. The Entler Avenue Hybrid Alternative and Entler Avenue Hybrid and Crouch Avenue Alternative would result in a greater level of impacts on special-status species and sensitive communities when compared to the Proposed Project and Crouch Avenue Alternative. The Export Pipeline System under the Entler Avenue Hybrid Alternative and Entler Avenue Hybrid and Crouch Avenue Alternative would cross approximately 0.4 mile of additional valley-foothill riparian habitat, which is a sensitive community, between Butte Creek and SR 99. Valley-foothill riparian is suitable habitat for multiple special-status species of plants and wildlife and is often used by wildlife as a movement corridor. Alternatively, impacts on state or federally protected wetlands would be the lowest under the Entler Avenue Hybrid Alternative as compared to the Proposed Project and other action alternatives because no aquatic features are present within the Entler Avenue Hybrid Alternative footprint. Based on available preliminary data, the Crouch Avenue Alternative and Entler Avenue Hybrid and Crouch Avenue Alternative would result in a greater level of impacts on state or federally protected wetlands than the Proposed Project.

Summary and Conclusion. Based on the results of the alternatives analysis, the Crouch Avenue Alternative would be the environmentally superior alternative because fewer impacts would occur on air quality, noise and groundborne vibration, and biological resources (special-status species and sensitive communities) when compared to the Proposed Project other action alternatives. However, as noted above, the Crouch Avenue Alternative would also result in a greater level of impacts on state or federally protected wetlands than the Proposed Project. Since impact findings for the Proposed Project and all action alternatives with mitigation incorporated show less than significant impacts or no impacts for all resource areas, selection of any of the three action alternatives would not significantly alter the potential for effects of implementing the Proposed Project.

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