

OLINDA LAST MILE UNDERSERVED BROADBAND PROJECT

DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

APRIL 2019



PREPARED FOR:



**STATE OF CALIFORNIA
PUBLIC UTILITIES
COMMISSION**

PREPARED BY:



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Acronyms and Abbreviations

°F	degrees Fahrenheit
AB	Assembly Bill
ADI	area of direct impact
AII	area of indirect impact
API	area of potential impact
APM	applicant-proposed measure
applicant	TDS Telecom; <i>also</i> TDS
AQAP	Air Quality Attainment Plan
ASTM	American Society for Testing and Materials
BLM	Bureau of Land Management
BMP	best management practice
ca.	circa
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	
Cal-IPC	California Invasive Plan Council
CalOSHA	California Occupational Health and Safety Administration
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Shasta Regional Climate Action Plan
CARB	California Air Resources Board
CASF	California Advance Services Fund
CBC	California Building Code
CCCSO	Clear Creek Community Services District
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH ₄	methane
CHRIS	California Historical Resources Information System
CIWMB	California Integrated Waste Management Board
CNDDB	California Natural Diversity Data Base
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
CPUC	California Public Utilities Commission

CR A16	County Route A16
CRHR	California Register of Historic Resources
CSD	Community Services District
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibels
DigAlert	Underground Service Alert of Northern California
DLC	Digital Loop Carrier
DPR	California Department of Parks and Recreation
DTSC	California Department of Toxic Substance Control
DWR	California Department of Water Resources
EDR	Environmental Data Resources, Inc.
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act of 2007
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FACW	facultative wetland
FERC	Federal Energy Regulatory Commission
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FRA	Federal Responsibility Area
FTA	Federal Transit Administration
GHG	greenhouse gas
gpm	gallons per minute
H ₂ S	hydrogen sulfide
Happy Valley	Happy Valley Telecom
HAZWOPER	Hazardous Waste Operations and Emergency Response Standard
HCD	State Department of Housing Community Development
HDPE	high density polyethylene
HFC	hydrofluorocarbons
HSC	California Health and Safety Code
I-5	Interstate 5
IS	Initial Study
km	kilometer
kW/m ²	kilowatts per square meter
L _{dn}	day–night average sound level; <i>also</i> DNL
L _{eq}	equivalent sound pressure level
LOS	level of service
m	meters
m ³	cubic meters
Mbps	megabits per second
MBTA	Migratory Bird Treaty Act
mm	millimeters

MMRP	Mitigation, Monitoring, and Reporting Program
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
MSDS	material safety data sheet
MTCO ₂ e	metric tons of carbon dioxide equivalents
MY	model year
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NEIC	Northeast Information Center
NHD	National Hydrography Dataset
NHTSA	National Highway Traffic and Safety Administration
NO ₂	nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
O ₃	ozone
OBL	obligate wetland
Olinda Project	Olinda Last Mile Underserved Broadband Project; <i>also</i> , proposed project
OSHA	Occupational Safety and Health Administration
Pb	lead
PEA	Proponent's Environmental Assessment
PFC	perfluorocarbon
PG&E	Pacific Gas and Electric Company
PM	Project Manager
PM ₁₀	particulate matter less than 10 microns
PM _{2.5}	fine particulate matter less than 2.5 microns
PPV	perturbation project vector
PRC	Public Resources Code
proposed project	Olinda Last Mile Underserved Broadband Project; <i>also</i> , Olinda Project
RCRA	Resource Conservation and Recovery Act
RFS	Renewable Fuel Standard
RHNA	Regional Housing Needs Allocation
ROG	reactive organic gases
ROW	right-of-way
RTP/SCS	Regional Transportation Plan and Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAQMD	South Coast Air Management District
SCGP	Shasta County General Plan
SCSD	Shasta County Sheriff's Department
SF ₆	sulfur hexafluoride
Shasta County AQMD	Shasta County Air Quality Management District
SIP	state implementation plan
SO ₂	sulfur dioxide

SO ₄	sulfate
SRA	State Responsibility Area
SR 273	State Route 273
SVAB	Sacramento Valley Air Basin
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
T&E	threatened and endangered
TAC	toxic air contaminant
TCR	Tribal Cultural Resource
TDS	TDS Telecom; <i>also</i> , the applicant
telecom line	fiber-optic telecommunications cable
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VdB	vibration velocity decibels
VDSL2	very-high-bit-rate digital subscriber line
VFC	Volunteer Fire Company
VP	viewpoint
Wintu	Wintu Tribe of Northern California

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Draft Mitigated Negative Declaration

Olinda Last Mile Underserved Broadband Project

1 Introduction

2 The Olinda Last Mile Underserved Broadband Project (Olinda Project, or the proposed project) would
3 involve construction of a second-generation, very-high-bit-rate digital subscriber line (VDSL2) fiber-
4 optic cable network with 25-megabit-per-second (Mbps) download speed and 5-Mbps upload speed
5 (25Mbps/5Mbps). Approximately 15.3 miles of new fiber-optic cable would be buried within protective
6 conduit along existing roads in southwestern Shasta County.

7
8 The proposed project would be funded in part by the California Advance Services Fund (CASF). On
9 October 3, 2013, the California Public Utilities Commission (CPUC) adopted Resolution T-17411
10 approving CASF funding of the Grant Application for construction of TDS Telecom's (TDS's, or the
11 applicant's) proposed project. On May 12, 2016, the CPUC adopted Resolution T-17517 to provide
12 additional CASF funding for the environmental review and completion of the proposed project.

13
14 Resolution T-17411 stipulates that prior to receiving CASF funding, the applicant is required to provide a
15 Proponent's Environmental Assessment (PEA) and the CPUC must complete California Environmental
16 Quality Act (CEQA) review. The applicant submitted a PEA to the CPUC on August 5, 2015.¹

18 Background and Description of Project

19 The Olinda Project would be located approximately 11 miles south of the city of Redding in
20 unincorporated portions of southwestern Shasta County, near the communities of Happy Valley, Olinda,
21 and Igo. The majority of the proposed project area is used for agriculture, with limited residential and
22 commercial properties dispersed throughout. Public land managed by the Bureau of Land Management
23 (BLM) lies near the western portion of the proposed project area, but the proposed project is not within
24 BLM jurisdiction. The proposed project consists of installation of the following components:

- 25
26 • **New high-speed broadband fiber-optic cable:** TDS would construct a VDSL2 fiber-optic
27 network capable of 25 Mbps/5 Mbps download/upload speed. Approximately 15.3 miles of 96-
28 count, shielded fiber-optic telecommunications cable within 1.25-inch-diameter, high-density
29 polyethylene conduits would occur along existing roads within the proposed project area.

¹ The applicant's PEA and other source documentation referenced herein is available as part of the project's administrative record accessible via <http://www.cpuc.ca.gov/environment/info/ene/olinda/olinda.html>

- **Equipment cabinets on top of buried vaults and cross-connect boxes at Digital Loop Carrier (DLC) sites:** TDS would construct seven new DLC sites and renovate up to six existing sites. Each DLC would consist of an equipment cabinet; a large, partially buried vault (handhole); and a cross-connect box. Equipment cabinets would be installed on top of the buried handholes. Gravel would be placed in a 20-square-foot area around each equipment cabinet.

The proposed alignment would run alongside Shasta County roads between Igo and the applicant's central office in Happy Valley. TDS has completed applications and submitted plans to the County to secure the required encroachment permits for locations where installations would occur along Shasta County roads. No additional right-of-way (ROW) would be required. No construction work shall commence until the applicant has obtained all approvals. In accordance with the CPUC's General Order 131-D, approval of this project must comply with CEQA.

The CPUC has prepared this Initial Study (IS) pursuant to CEQA for the proposed project to determine if any significant adverse effects on the environment would result from project implementation. The IS utilizes the significance criteria outlined in Appendix G of the CEQA Guidelines. If the IS for the project indicates that a significant adverse impact that could not be mitigated to a less-than-significant level could occur, the CPUC would be required to prepare an Environmental Impact Report (EIR).

According to Article 6 (Negative Declaration Process) and Section 15070 (Decision to Prepare a Negative Declaration or Mitigated Negative Declaration) of the CEQA Guidelines, a public agency shall prepare or have prepared a proposed Negative Declaration or Mitigated Negative Declaration (MND) for a project subject to CEQA when:

(a) *The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or*

(b) *The initial study identifies potentially significant effects, but:*

(1) *Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and*

(2) *There is no substantial evidence, in light of the whole record before the agency, that the project is revised may have a significant effect on the environment.*

Based on the analysis in the IS, it has been determined that all project-related environmental impacts would be reduced to a less-than-significant level with the incorporation of feasible applicant proposed measures (i.e., measures adopted by the applicant) and mitigation measures. Therefore, adoption of an MND will satisfy the requirements of CEQA.

The information contained in the proposed project's PEA and additional information requested by the CPUC during the PEA review were fully considered during the preparation of this IS/MND.

Copies of the project application, PEA, and supporting technical studies are available on the project website at: <http://www.cpuc.ca.gov/environment/info/ene/olinda/olinda.html>

Project Objective

The CASF program provides funds for the deployment of broadband infrastructure in unserved and underserved areas of California. TDS's subsidiary in the proposed project area is Happy Valley Telecom (Happy Valley). Happy Valley provides voice and broadband services in the area as the sole wireline internet service provider. TDS's existing land-based telecommunications system in the proposed project area consists of direct-buried copper lines and is able to provide basic telephone and 911 services. Dial-up Internet services are available, but the transfer rate is limited to a non-broadband speed of 56 kilobits per second.² TDS has targeted the proposed project area for broadband deployment because of existing customer demand and because the project is considered economically feasible with the assistance of CASF grants.

The applicant's stated objective is to make affordable broadband Internet services available to currently underserved areas in Shasta County.

Applicant Proposed Measures

TDS included project protocols in the August 2015 PEA that would be followed during project-related activities. Project protocols are specific to environmental issue areas and are herein termed applicant proposed measures (APMs), as listed in Table 1. Mitigation measures, listed in Table 2, are also identified to ensure that impacts of the proposed project would be less than significant. The additional mitigation measures supplement or supersede the APMs.

Section 6 of this document includes a Mitigation Monitoring and Reporting Plan (MMRP) to ensure that the APMs and mitigation measures presented below are properly implemented. The plan describes specific actions required to implement each APM and mitigation measure, including information on timing of implementation and monitoring requirements. Following project approval, the CPUC would prepare and implement a Mitigation Monitoring Compliance and Reporting Program to ensure compliance with mitigation measures approved in the Final IS/MND.

Table 1 Applicant Proposed Measures

APM Number	Description
Air Quality	
APM AQ-1	<p>TDS will require all construction contractors to implement the following measures for fugitive Particulate Matter (PM) less than 10 microns in diameter (PM10) control during construction:</p> <ul style="list-style-type: none"> All disturbed areas, including bulk material storage that is not being actively utilized, shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover. All on- and off-site unpaved roads will be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by non-toxic chemical stabilizers, dust suppressants, and/or watering. All track-out and carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 15 linear m (50 linear feet) or more onto a paved road within an urban area. Bulk material shall be stabilized prior to movement or at points of transfer with the application of sufficient water, the application of chemical stabilizers, or by sheltering or enclosing the operation and transfer line.

² 1 kilobyte per second is equal to 0.001 Mbps.

Table 1 Applicant Proposed Measures

APM Number	Description
	<ul style="list-style-type: none"> Vehicle speed for all construction vehicles shall not exceed 24.1 km (15.0 miles) per hour on any unpaved surface at the construction site.
Biological Resources	
APM BIO-1	All waterways and wetlands in the project area will be bored beneath and avoided during construction.
APM BIO-2	Bore pits will be placed a minimum distance of 5 m (16 feet) beyond either the top of waterway banks or the maximum extent of any vegetation present along the waterways' margins.
APM BIO-3	Bore pits will be placed a minimum distance of 76 m (250 feet) beyond either the edge of seasonal wetlands or the maximum extent of any vegetation present along the wetlands' margins.
APM BIO-4	A Stormwater Pollution Prevention Plan (SWPPP) will be developed and will include Best Management Practices (BMPs) that will be implemented during construction to minimize or eliminate sediment transport from areas subject to ground disturbance.
APM BIO-5	All orchards will be avoided during construction.
APM BIO-6	No trees will be removed during project construction. If vegetation trimming is required to complete the installations, trimming will be kept to the absolute minimum necessary.
Cultural Resources	
APM CR-1	Happy Valley Ditch will be avoided via subsurface boring.
APM CR-2	Cloverdale Cemetery and the Igo Inn will be avoided by rerouting the fiber-optic lines to the opposite side of the road.
APM CR-3	In the event that undiscovered historical or archaeological resources are encountered by construction personnel, all ground-disturbing activities within 30.5 m (100.0 feet) of the find in non-urban areas and 15.2 m (50.0 feet) in urban areas will be temporarily halted or diverted and a qualified archaeologist will be contacted to assess the discovery.
APM CR-4	If human remains are discovered or recognized in any location, construction personnel will suspend further excavation or disturbance of the site and any nearby areas reasonably suspected to overlie adjacent human remains until the County coroner has been informed and has determined that no investigation of the cause of death is required.
APM CR-5	In the event that fossil remains are encountered by construction personnel, qualified paleontological specialists will be contacted. Construction within 30.5 m (100.0 feet) of the find in non-urban areas and 15.2 m (50.0 feet) in urban areas will be temporarily halted or diverted until a qualified vertebrate paleontologist examines the discovery.
Greenhouse Gas Emissions	
APM GEO-1	TDS will require the contractor to manage construction-induced sediment and excavated spoils in accordance with the requirements of the State Water Resources Control Board (SWRCB) and U.S. Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) permits for stormwater runoff associated with construction activities.
APM GEO-2	Prior to the onset of construction, TDS or its authorized contractor will complete a SWPPP that outlines BMPs to control discharges from construction areas.
APM GEO-3	No construction-related materials, wastes, spills, or residues will be discharged from the project.
APM GEO-4	The staging of construction materials, equipment, and excavation spoils will be performed outside of drainages.
APM GEO-5	Excavated or disturbed soil will be kept within a controlled area surrounded by a perimeter barrier that may include silt fence, hay bales, straw wattles, or a similarly effective erosion control technique that prevents the transport of sediment from a given stockpile.
APM GEO-6	All stockpiled material will be covered or contained in such a way that off-site runoff is eliminated.
APM GEO-7	Upon completion of construction activities, excavated soil will be replaced and graded so that post-construction topography and drainage matches pre-construction conditions.
APM GEO-8	Surplus soil will be transported from the site and disposed of appropriately.

Table 1 Applicant Proposed Measures

APM Number	Description
Hazards and Hazardous Materials/Fire Safety	
APM HAZ-1	TDS and/or their contractor will ensure proper labeling, storage, handling, and use of hazardous materials in accordance with BMPs and the Occupational Safety and Health Administration's (OSHA's) Hazardous Waste and Operations and Emergency Response (HAZWOPER) requirements.
APM HAZ-2	TDS and/or their contractor will ensure that employees are properly trained in the use and handling of hazardous materials and that each material is accompanied by a Material Safety Data Sheet (MSDS).
APM HAZ-3	Any small quantities of hazardous materials stored temporarily in staging areas will be stored on pallets within fenced and secured areas and protected from exposure to weather. Incompatible materials will be stored separately, as appropriate.
APM HAZ-4	All hazardous waste materials removed during construction will be handled and disposed of by a licensed waste disposal contractor and transported by a licensed hauler to an appropriately licensed and permitted disposal or recycling facility to the extent necessary to ensure the area can be safely traversed.
APM HAZ-5	Spill clean-up kits would be provided and kept on-site during construction, and equipment would remain in good working order to prevent spills. Significant releases or threatened releases of hazardous materials will be reported to the appropriate agencies.
APM HAZ-6	Workers shall be instructed regarding the danger of wildland fire and the need to carefully park equipment in areas without dry, brushy vegetation. All work vehicles shall be equipped with a working fire extinguisher. All cigarettes and trash shall be disposed of in proper containers and taken off-site at the end of the day.
Noise	
APM NOI-1	All construction equipment operation shall be limited to the hours of 7 a.m. to 7 p.m. Monday through Friday. No construction operations shall occur on weekends or holidays or during nighttime hours.
Traffic	
APM TRA-1	TDS and/or their contractors will require the project contractor to obtain all necessary local road encroachment permits prior to construction and will comply with all the applicable conditions of approval.
APM TRA-2	As deemed necessary by the applicable jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction.
APM TRA-3	TDS and/or their contractors will develop circulation and detour plans to minimize impacts to local street circulation. This will include the use of signing and flagging to guide vehicles through and/or around the construction zone.
APM TRA-4	TDS and/or their contractors will schedule truck trips outside of peak morning and evening commute hours.
APM TRA-5	TDS and/or their contractors will limit lane closures during peak hours to the extent possible.
APM TRA-6	TDS and/or their contractors will include detours for bicycles and pedestrians in all areas potentially affected by project construction.
APM TRA-7	TDS and/or their contractors will install traffic control devices as specified in the <i>California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones</i> .
APM TRA-8	TDS and/or their contractors will coordinate with local transit agencies for the temporary relocation of routes or bus stops in work zones as necessary.
Utilities and System Services	
APM PSU-1	TDS and/or their contractors will recycle solid waste generated during construction, to the extent practicable.

Table 2 Mitigation Measures

Mitigation Measure Number	Description
General	
MM GEN-1	Implementation of All APMs. The applicant will implement all APMs as stated in this environmental document, except in cases where they are superseded by Mitigation Measures, and the physical and operational components of the project will not exceed the limits of Shasta County roads, roadways, and right-of-ways. The APMs will be incorporated into the Mitigation, Monitoring, and Reporting Program.
Biological Resources	
MM BIO-1	Nesting Birds Avoidance. Should construction activities take place between February 1 and August 31, a CPUC-approved qualified biologist shall conduct a preconstruction survey to identify active nests with the potential to be disturbed by construction within seven days of the onset of construction in areas within 200 feet of potential nesting bird habitat. Should active nests be detected within 200 feet of a construction area, the biologist will establish a buffer around the nest large enough to ensure that construction will not disturb the nesting pair. The buffer limits shall be identified where they meet the construction area using flagging or signage. If construction must take place within the buffer (e.g., the nest cannot be bored underneath and avoided), the biologist shall monitor the nesting pair for signs of disturbance for as long as construction activities remain within buffer limits. If the nesting pair shows signs of disturbance, the biologist will halt construction activities within the buffer until the pair exhibits normal behavior. If, in the biologist's best judgement, the presence of construction may threaten nest success, construction activities will be prohibited within the buffer until the nest is no longer active. Should construction activities in a given area lapse for more than seven days, the biologist shall re-survey that area. Results of surveys shall be submitted to the CPUC within one week of completion.
Cultural	
MM CUL-1	<p>Worker Education Program. TDS shall design and implement a Worker Education Program that requires training for all project personnel, including construction supervisors and field personnel, who may encounter and/or alter previously identified and as yet unidentified archaeological and/or architectural resources, including any that may be determined historical resources or unique archaeological resources. All construction workers shall receive this Worker Education Program training before engaging in field operations.</p> <p>The Worker Education Program shall include training that covers, at a minimum, the following topics:</p> <ul style="list-style-type: none"> • A review of the prehistory, Native American ethnography/ethnohistory, and history of the proposed project area; • A review of the types of prehistoric, ethnographic/ethnohistoric, and historic archaeological and architectural resources, including artifacts, features, and/or human remains, that could be identified in the proposed project area, including, but not limited to, those that could be associated with historic archaeological site CA-SHA-3373H (Landfill Mining Complex), the former community of Piety Hill, historic archaeological site CA-SHA-3382H (Happy Valley Ditch), the historic Igo Inn, or the historic Cloverdale Cemetery (also known as Oak Cemetery or Happy Valley Cemetery), which is still in use today. • A review of applicable local, state, and federal ordinances, laws, and regulations pertaining to archaeological resources, architectural or other built resources (including prehistoric and ethnographic/ethnohistoric Native American and historic [Euro-American] archaeological and architectural or other built resources), human remains, tribal cultural resources, cultural resources management, and historic preservation; • A discussion of procedures to be followed in the event that unanticipated cultural resources or human remains are discovered during implementation of the proposed project;

Table 2 Mitigation Measures

Mitigation Measure Number	Description
	<ul style="list-style-type: none"> • A discussion of disciplinary and other actions that could be taken against persons violating historic preservation laws and TDS policies; and • A statement by the construction company or applicable employer agreeing to abide by the Worker Education Program, TDS policies and procedures, and other applicable local, state, and federal ordinances, laws, and regulations. <p>A copy of the materials included as part of the worker education program will be provided to Native American tribes participating in the AB 52 consultation with the CPUC, if requested.</p> <p>This MM shall be coordinated with MM Geology and Soils (GEO)-1</p>
MM CUL-2	<p>Cultural Resources Monitoring. For the purpose of this MM, cultural resources refers to archaeological resources (prehistoric and historic; known or previously unidentified); historic architectural resources (structures, buildings, and objects); and resources associated with California Native American tribes (sub-surface or above-ground). Cultural resources is a general term and does not account for significance (i.e., a historical resource, unique archaeological resource, or tribal cultural resource). TDS shall ensure that a CPUC-approved archaeologist that meets the Secretary of Interior's Professional Qualifications Standards for archaeology and has specific experience in the identification of human remains conducts monitoring with regard to cultural resources during construction of the proposed project. The qualified archaeologist shall be approved prior to the start of construction by the CPUC Project Manager (PM).</p> <p>The CPUC-approved archaeologist shall prepare a Monitoring and Treatment Plan for Cultural Resources. Prior to commencement of construction, TDS shall submit the Monitoring and Treatment Plan to the CPUC for review and approval. This plan will include a description of when the Wintu Tribe of Northern California (Wintu) will be notified and when the Wintu will conduct monitoring of the construction activities (see MM TCR-2). The CPUC PM will approve or request changes to the Monitoring and Treatment Plan for Cultural Resources within seven days of submittal by TDS. Once the CPUC PM approves the Monitoring and Treatment Plan for Cultural Resources, TDS shall ensure that the CPUC-approved archaeologist implements the approved plan. A courtesy copy will be provided to the Wintu Tribe.</p> <p>The CPUC-approved archaeologist shall monitor the effects of all construction-related work conducted within locations with the potential to contain previously unidentified cultural resources and within 200 feet of the known archaeological resources according to the Monitoring and Treatment Plan for Cultural Resources.</p> <p>TDS, in consultation with the CPUC-approved archaeologist, shall implement the following procedures as part of the monitoring for cultural resources:</p> <ul style="list-style-type: none"> • A CPUC-approved archaeologist shall conduct monitoring during construction in those locations within the API with the potential to contain previously unidentified cultural resources, as identified in the Monitoring and Treatment Plan. <ul style="list-style-type: none"> - These areas shall include within 200 feet of known archaeological resources, consisting of sites CA-SHA-3373H and CA-SHA-3382H; within 200 feet of known historic architectural resources, consisting of the Igo Inn and the Cloverdale Cemetery; and within 200 feet of the Piety Hill historical marker (State of California 2017g, 2017h; The Historical Marker Database 2017). • TDS shall erect protective barriers with signage identifying any exclusion area due to the presence of known cultural resources (if applicable) as an "environmentally sensitive area."

Table 2 Mitigation Measures

Mitigation Measure Number	Description
	<p>The CPUC-approved archaeologist shall have the authority to implement the procedures in MM CUL-3 if an unanticipated cultural resource is discovered at any time and in any location during construction of the proposed project, including in the vicinity of any of the known archaeological resources, known historic architectural resources, and other resources.</p> <p>At the conclusion of monitoring for cultural resources, TDS shall submit a Monitoring Report documenting the results of the monitoring activities to the CPUC for review and approval. The report shall be prepared by the CPUC-approved archaeologist. The CPUC PM will approve or request changes to the report within seven days of submittal by TDS.</p>
MM CUL-3	<p>Treatment for Unanticipated Cultural Resources Discoveries. For the purpose of this MM, cultural resources has the same definition as noted per MM CUL-2. TDS shall immediately halt and exclude construction work within 100 feet of the discovery of an unanticipated cultural resource, and the CPUC-approved archaeologist shall inspect the unanticipated resource. At the request of the CPUC-approved archaeologist, TDS shall install protective barriers with signage identifying the exclusion area as an "environmentally sensitive area."</p> <p>Per the CPUC-approved archaeologist's discretion and knowledge of potential resources types, if the resource has the potential to be important to a Native American tribe, MM TCR-2 will be followed.</p> <p>Avoidance: If the CPUC-approved archaeologist determines the resource can be avoided, and no impacts would occur, TDS shall notify the CPUC of the unanticipated resource within 24 hours of its discovery and confirm that it can be avoided. As part of the notification, the resource will be described with sufficient detail to allow the CPUC an understanding of how the resource will be avoided and how no impacts would occur. TDS may proceed with construction work in the area of discovery.</p> <p>TDS shall ensure that the CPUC-approved archaeologist records the unanticipated cultural resource on the appropriate California Department of Parks and Recreation (DPR) 523 forms. TDS shall submit the completed DPR 523 forms to the CPUC for review and approval within 48 hours of the find. The CPUC PM will approve or request changes to the DPR 523 forms within seven days of submittal by TDS. Once approved, TDS shall file the DPR 523 forms with the Northeast Information Center (NEIC) and shall provide a copy of the DPR 523 forms to the CPUC for its records.</p> <p>Evaluation: If TDS determines that it cannot avoid the unanticipated resource, the CPUC-approved archaeologist shall evaluate the resource to determine if there is a potential for it to be a historical resource (CEQA Guidelines section 15064.5(a)) or a unique archaeological resource (PRC 21083.2(g)).</p> <p>The following procedures will be implemented, if the resource cannot be avoided:</p> <ul style="list-style-type: none"> At the discretion of the CPUC-approved archaeologist, if the resource is not potentially a historical or unique archaeological resource, TDS may proceed with construction upon notification to the CPUC within 24 hours via email of the find and proper recordation on the appropriate DPR 523 forms. TDS may proceed with construction work in the area of discovery. <p>TDS shall submit the DPR 523 forms to the CPUC for review and approval within 48 hours of the find. The CPUC PM will approve or request changes to the DPR 523 forms within seven days of submittal by TDS. Once approved, TDS shall file the completed DPR 523 forms with the Northeast Information Center and shall provide a copy of the DPR 523 forms to the CPUC for its records.</p> <ul style="list-style-type: none"> If the CPUC-approved archaeologist, determines that the resource is potentially a historical or unique archaeological resource, the CPUC-approved archaeologist shall prepare an

Table 2 Mitigation Measures

Mitigation Measure Number	Description
	<p>Evaluation Plan that details the procedures to be used to determine whether the resource is a historical or unique archaeological resource. The CPUC PM will approve or request changes to the Evaluation Plan within three days of submittal by TDS.</p> <ul style="list-style-type: none"> Once the CPUC PM has approved the Evaluation Plan, TDS shall ensure that the CPUC-approved archaeologist implements the approved Evaluation Plan. <p>Evaluation Plan Implementation: When fieldwork implemented as part of the approved Evaluation Plan is completed, the CPUC-approved archaeologist shall prepare an Evaluation Memo that describes the results of the evaluation. TDS shall submit the Evaluation Memo to the CPUC for review and approval. The CPUC PM will approve or request changes to the Evaluation Memo within seven days of submittal by TDS.</p> <p>After implementation of the Evaluation Plan, TDS may proceed with work in the area of the discovery, if the following occurs:</p> <ul style="list-style-type: none"> The CPUC-approved archaeologist determines that the unanticipated resource is not a historical or unique archaeological resource, and The CPUC PM concurs with that recommendation. <p>Data Recovery Plan: If after implementation of the Evaluation Plan, the CPUC-approved archaeologist recommends that the unanticipated resource is a historical or unique archaeological resource, TDS shall ensure that the CPUC-approved archaeologist prepares a Data Recovery Plan that would reduce impacts on the potential historical or unique archaeological resource to less than significant.</p> <p>TDS shall ensure that the Data Recovery Plan is prepared by the CPUC-approved archaeologist in accordance with CEQA Guidelines section 15126.4(b)(3)(C) and PRC section 21083.2 and describes methods that will yield relevant information. TDS shall submit the Data Recovery Plan to the CPUC for review and approval. The CPUC PM will approve or request changes to the Data Recovery Plan within seven days of submittal by TDS. Once the CPUC PM approves the Data Recovery Plan, TDS shall ensure that the CPUC-approved archaeologist implements the approved plan.</p> <p>When fieldwork implemented as part of the approved Data Recovery Plan is completed, the CPUC-approved archaeologist shall prepare a Data Recovery Field Memo that briefly describes the results of the data and materials recovery. TDS shall submit the Data Recovery Field Memo to the CPUC for review and approval. The CPUC PM will approve or request changes to the Data Recovery Field Memo within seven days of submittal by TDS. Once the CPUC PM has approved the Data Recovery Field Memo, TDS may proceed with construction work in the area of the discovery.</p> <p>TDS shall ensure that the CPUC-approved archaeologist prepares a more detailed Data Recovery Report within 90 days of the CPUC's approval of the Data Recovery Field Memo. TDS shall ensure that the Data Recovery Report presents a thorough discussion of the data recovery efforts, presents the conclusions drawn from the data recovery work, and indicates where materials associated with the Data Recovery will be curated; it shall also contain the appropriate completed California DPR 523 forms. TDS shall submit the Data Recovery Report to the CPUC for review and approval. Once the CPUC PM approves the Data Recovery Report, TDS shall file the Data Recovery Report and the appropriate completed California DPR 523 forms with the NEIC.</p>
MM CUL-4	<p>Conduct Class III cultural resources surveys for unsurveyed work areas. Prior to construction, TDS shall compare the limits of the proposed areas of disturbance (i.e., where surface disturbance and sub-surface activities will occur) to the portion of the proposed project area for which a Class III Cultural Resources Survey has been prepared (Howell and Copperstone 2017). TDS then shall</p>

Table 2 Mitigation Measures

Mitigation Measure Number	Description
	<p>verify that all proposed areas of disturbance for the proposed project have been surveyed at the Class III Cultural Resources Survey level. TDS shall provide this verification, consisting of a written statement and accompanying project maps, to the CPUC for review and approval. Notification also will be sent as a courtesy to the Wintu.</p> <p>If the CPUC PM concurs that the 2014 Class III Cultural Resources Survey for the proposed project (Howell and Copperstone 2017) sufficiently covered the proposed areas of disturbance, TDS may commence construction work as follows:</p> <ul style="list-style-type: none"> • If no known resources are located in the areas of disturbance based on the 2014 Class III Cultural Resources Survey, construction-related work for the proposed project can proceed. • If known resources or areas of potential archaeological sensitivity are located in the areas of disturbance based on the Class III Cultural Resources Survey, they must be monitored pursuant to MM CUL-2. • Any unanticipated cultural resources that are discovered during construction work activities shall be subject to MM CUL-3. <p>If the 2014 Class III Cultural Resources Survey for the proposed project does not sufficiently cover the proposed areas of disturbance, TDS shall notify CPUC of this determination. TDS shall ensure that a CPUC-approved archaeologist conducts a supplemental Class III Cultural Resources Survey of the unsurveyed areas, and TDS shall provide the report documenting the results of the supplemental Class III Cultural Resources Survey to the CPUC for review and approval. Any newly identified resources will be treated similar to an unanticipated discovery. Those that are not historical resources or unique archaeological resources will be subject to monitoring as noted in MM CUL-2; for those that may be historical resources or unique archaeological resources, the procedures identified in MM CUL-3 shall be followed. TDS shall not commence construction work until the CPUC PM reviews and approves the results, conclusions, and recommendations of the supplemental Class III Cultural Resources Survey. Copies of the documentation for these activities will be provided to the Wintu.</p>
MM CUL-5	<p>Treatment of Human Remains. In the event of the discovery or recognition of human remains during construction, including, but not limited to, in the vicinity of the Cloverdale Cemetery, the following steps shall be taken:</p> <ul style="list-style-type: none"> • TDS shall ensure that there is no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains while TDS in consultation with the CPUC PM and the Wintu, contacts the Shasta County Coroner, and the coroner works to determine if the human remains are modern, historic, prehistoric, and/or Native American and to determine whether an investigation of the cause of death is required. • Further, pursuant to California PRC Section 5097.98(b), TDS shall ensure that the area containing the discovered or recognized human remains is left in place and free from disturbance until the landowner or the person responsible for the excavation work makes a final decision as to the treatment and disposition of the human remains. • For this proposed project, the CPUC considers the site or any nearby area to be the 100-foot exclusion area developed for the Cloverdale Cemetery and the 200-foot monitoring area for the Cloverdale Cemetery, within which cultural monitoring of the cemetery is being conducted pursuant to MM CUL-2/3. • If the Shasta County Coroner determines the remains to be Native American, then the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the

Table 2 Mitigation Measures

Mitigation Measure Number	Description
	<p>NAHC shall identify the person or persons from which the NAHC believes the deceased to be the "most likely descendent."</p> <ul style="list-style-type: none"> The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work by which the human remains were discovered or recognized regarding means of treating or disposing of, with appropriate dignity, the human remains and associated grave goods as provided in California PRC Section 5097.98. <p>TDS shall notify the CPUC within 24 hours of receiving notification of the landowner's, or the person responsible for the excavation work's, decision for the final treatment or disposition of the human remains and associated grave goods.</p>
Geology and Soils	
MM GEO-1	<p>Worker Education Program. TDS shall design and implement a Worker Education Program that requires training for all project personnel, including construction supervisors and field personnel, who may encounter and/or alter previously identified and as yet unidentified paleontological resources, including any that may be determined to be a unique paleontological resource or site or unique geologic feature. All construction workers shall receive this Worker Education Program training before engaging in field operations.</p> <p>The Worker Education Program shall include training that covers, at a minimum, the following topics:</p> <ul style="list-style-type: none"> A review of the types of paleontological resources that could be identified in the proposed project area; A review of applicable local and state ordinances, laws, and regulations pertaining to paleontological resources; and A discussion of procedures to be followed in the event that paleontological resources are discovered during implementation of the proposed project. <p>This program shall be coordinated with the cultural resources training provided as part of Section 5.5 Cultural Resources, MM CUL-1.</p>
MM GEO-2	<p>Paleontological Monitoring. TDS shall ensure that a CPUC-approved paleontologist conducts paleontological monitoring for the proposed project. The qualified paleontologist shall be approved prior to the start of construction by the CPUC.</p> <p>The CPUC-approved paleontologist shall prepare a Paleontological Monitoring Plan. Prior to commencement of construction, TDS shall submit the Paleontological Monitoring Plan to the CPUC for review and approval. The CPUC will approve or request changes to the Paleontological Monitoring Plan within seven days of submittal by TDS. Once the CPUC approves the Paleontological Monitoring Plan, TDS shall ensure that the CPUC-approved paleontologist implements the approved plan.</p> <p>The Paleontological Monitoring Plan shall include the significance criteria for the fossils likely to be yielded by the Red Band and Tehama Formations, subject to CPUC-approval and outline how such criteria shall be applied to determine whether or not the paleontological resource is significant. In the absence of other agreed-upon criteria, a paleontological resource shall be considered unique if it meets the definition of a significant paleontological resource under the 2010 Society of Vertebrate Paleontology <i>Standard Procedures for the Assessment of Adverse Impacts to Paleontological Resources</i> definition:</p> <p>Significant paleontological resources are fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and</p>

Table 2 Mitigation Measures

Mitigation Measure Number	Description
	<p>trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years). (Society for Vertebrate Paleontology 2010)</p> <p>The CPUC-approved paleontologist shall monitor the effects of all construction-related work conducted in these areas according to a Paleontological Monitoring Plan that is prepared for the proposed project by the CPUC-approved paleontologist and approved by the CPUC prior to the start of construction.</p> <p>TDS, in consultation with the CPUC-approved paleontologist, shall implement the following procedures as part of paleontological monitoring:</p> <ul style="list-style-type: none"> • A CPUC-approved paleontologist conducts paleontological monitoring during construction in the locations with the potential to contain paleontological resources. • TDS, in consultation with the CPUC-approved paleontologist, shall identify the locations within the proposed project area with the potential to contain paleontological resources. • TDS shall erect protective barriers with signage identifying each exclusion area as an "environmentally sensitive area." <p>The CPUC-approved paleontologist shall have the authority to implement the procedures set forth in MM GEO-2 if a paleontological resource is discovered at any time and in any location during construction of the proposed project, including within, and outside of, the locations that have been identified as having potential to contain paleontological resources.</p> <p>At the conclusion of paleontological monitoring, TDS shall submit a report documenting the results of paleontological monitoring to the CPUC for review and approval. The monitoring report shall be prepared by the CPUC-approved paleontologist. The CPUC will approve or request changes to this monitoring report within seven days of submittal by TDS.</p>
MM GEO-3	<p>Treatment for Paleontological Resources. TDS shall immediately halt and exclude construction work within 100 feet of the discovery of a paleontological resource, and the CPUC-approved paleontologist shall inspect the paleontological resource. At the request of the CPUC-approved paleontologist, TDS shall install protective barriers with signage identifying the exclusion area as an "environmentally sensitive area." TDS shall notify the CPUC of the paleontological resource discovery within 24 hours of its discovery.</p> <p>The CPUC-approved paleontologist shall examine the find and evaluate it to determine whether it is likely to be considered unique under Part V of CEQA Guidelines Appendix G based on the criteria set forth in the Paleontological Monitoring Plan.</p> <p>The CPUC-approved paleontologist shall prepare a report documenting the results of the evaluation of each discovered paleontological resource, or group of paleontological resources if located within the same exclusion area. TDS shall submit an evaluation report(s) to the CPUC for review and approval. The CPUC will approve or request changes to the evaluation report(s) within seven days of submittal by TDS. Once the CPUC has approved the evaluation report(s), the CPUC shall determine whether or not the paleontological resource is unique.</p> <p>If the CPUC, in consultation with the CPUC-approved paleontologist, determines that the paleontological resource is not unique, TDS may commence work in the area upon approval by the CPUC. If the CPUC, in consultation with the CPUC-approved paleontologist, determines that the resource is unique, preservation in place, i.e., avoidance, is the preferred method of mitigation for impacts to unique paleontological resources. If TDS, in consultation with the CPUC-approved</p>

Table 2 Mitigation Measures

Mitigation Measure Number	Description
	<p>paleontologist, determines that the unique paleontological resource can be avoided and thus not impacted, TDS shall ensure that the CPUC-approved paleontologist documents the resource(s) in accordance with professional standards, such as those in the 2010 Society of Vertebrate Paleontology <i>Standard Procedures for the Assessment of Adverse Impacts to Paleontological Resources</i>. TDS shall continue to flag the area for avoidance during construction, and no further treatment shall be required as long as the unique paleontological resource is avoided during construction of the proposed project.</p> <p>However, if the resource is found to be unique and TDS, in consultation with the CPUC-approved paleontologist, determines that it cannot feasibly be avoided, TDS shall consult with the CPUC to determine appropriate mitigation measures for the treatment of impacts on a unique paleontological resource as follows:</p> <ul style="list-style-type: none"> • Mitigation methods may include ensuring that fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards under the direction of the CPUC-approved paleontologist. • Methods of recovery, testing, and evaluation shall adhere to current professional standards for recovery, preparation, identification, analysis, and curation, such as the 2010 Society of Vertebrate Paleontology <i>Standard Procedures for the Assessment of Adverse Impacts to Paleontological Resources</i>. • The CPUC-approved paleontologist shall present the mitigation measures that are agreed upon by the CPUC and TDS, in consultation with the CPUC-approved paleontologist, in a Paleontological Treatment Plan. <p>TDS shall ensure that the CPUC-approved paleontologist implements the approved Paleontological Treatment Plan, and TDS may commence work in the area with the CPUC's approval after the identified paleontological resource(s) have been recovered from the field (if recovery is implemented as part of mitigation) and upon approval by the CPUC.</p> <p>TDS shall ensure that the CPUC-approved paleontologist prepares a report documenting the results of the treatment within 90 days of the CPUC's approval of the Paleontological Treatment Plan. TDS shall ensure that the report presents a thorough discussion of the data recovery efforts, presents the conclusions drawn from the data recovery work, and indicates where the recovered unique paleontological resources will be curated. TDS shall submit the report documenting the treatment to the CPUC for review and approval. Once the CPUC approves this report, TDS shall curate the materials and shall provide a copy of the approved report documenting the treatment to CPUC for its records.</p>
Noise	
MM NOI-1	<p>Notify Local Landowners of Construction Activities. The applicant shall provide written notice to residences and landowners located within 50 feet of proposed project alignment at least within five days of commencement of construction activities at the street where works will occur. The notice shall state the date of planned construction activity in proximity to that landowner's property and the range of hours during which maximum noise levels may be anticipated.</p>

Table 2 Mitigation Measures

Mitigation Measure Number	Description
Transportation and Traffic	
MM TRAN-1	Road Repair. The applicant shall repair to pre-project conditions any roads damaged by project vehicle traffic. The applicant shall document roadway conditions with photographs prior to the project along roadways within the project area. The applicant shall take photographs after the project and after any repairs that document restoration of pre-project pavement conditions.
MM TRAN-2	Emergency Access. The applicant shall notify local emergency service providers (i.e., police departments, ambulance services, and fire departments) of lane closures at least one week prior to the closure. The applicant shall notify the provider of the location, date, time, and duration of the lane closure. The applicant shall make provisions to maintain emergency vehicle access at all times in coordination with local emergency service providers, such as allowing for bypass of slow vehicle traffic during lane closures.
Tribal Cultural Resources	
MM TCR-1	<p>Tribal Monitoring for Cloverdale Cemetery: One Native American monitor from the Wintu Tribe of Northern California (Wintu) shall be retained, at the Tribe's option, to observe ground-disturbing activities and all work within 200 feet of the Cloverdale Cemetery, subject to the conditions outlined in this mitigation measure.</p> <p>Wintu monitoring shall be subject to the following conditions:</p> <ul style="list-style-type: none"> • The applicant shall give the Wintu Tribe of Northern California 14 days advance notice of construction in the vicinity of the Cloverdale Cemetery and shall provide the Wintu Tribe of Northern California with the opportunity to monitor construction activities in the vicinity of the Cloverdale Cemetery as requested in AB-52 consultation with CPUC. The applicant shall make a good-faith best effort to schedule construction activities in the vicinity of the Cloverdale Cemetery when a Wintu monitor is available. • The Wintu monitor's attendance during construction activities within 200 feet of the Cloverdale Cemetery is ultimately at the discretion of the Tribe, and the absence of a Wintu monitor shall not delay construction work if the Wintu Tribe of Northern California has been given 14 days advance notice. The applicant shall include documentation of its notification of, and communications with, the Wintu Tribe of Northern California for the Tribe's monitoring in the vicinity of Cloverdale Cemetery as part of the monitoring plan for the proposed project. <p>The Wintu monitor shall have the ability to temporarily halt work or redirect trenching from the immediate vicinity of a potential unanticipated find or the unanticipated discovery of human remains within 200 feet of the Cloverdale Cemetery. The Wintu monitor shall immediately notify the CPUC-approved archaeological monitor to follow the procedures for the discovery of unanticipated finds (per MM CUL-3) and/or for the unanticipated discovery of human remains per PRC section 5097.98.</p>
MM TCR-2	<p>Treatment for Unanticipated Tribal Cultural Resources. In the event a resource is discovered that, in the opinion of the CPUC-approved archaeologist may be considered a tribal cultural resource or a resource of importance to the Wintu Tribe, TDS shall notify the CPUC Project Manager (PM) and Wintu Tribe (Wintu AB 52 or cultural representative) within 24 hours of its discovery. As part of the notification, the resource will be described with sufficient detail to allow the CPUC PM/Wintu AB 52 or cultural representative an understanding of the resource.</p> <p>The CPUC-approved archaeologist, the CPUC PM, and the Wintu AB 52 or cultural representative will assess the potential significance of the find based on the notification information. If the CPUC-approved archaeologist, the CPUC PM, and Wintu AB 52 or cultural representative determine that the resource is not significant, TDS may proceed with construction within 24 hours of receiving notification of this determination.</p> <p>If the find is not determined to be significant, TDS shall submit the appropriate California Department of Parks and Recreation (DPR) 523 forms to the CPUC for review and approval within</p>

Table 2 Mitigation Measures

Mitigation Measure Number	Description
	<p>48 hours of the find. The CPUC PM will approve or request changes to the DPR 523 forms within seven days of submittal by TDS. Once approved, TDS shall file the completed DPR 523 forms with the Northeast Information Center and shall provide a copy of the DPR 523 forms to the CPUC for its records.</p> <p>If the find is potentially significant, the following procedures will be implemented:</p> <ul style="list-style-type: none"> • If the resource can be avoided and the CPUC-approved archaeologist, CPUC PM, and Wintu AB 52 or cultural representative concur, TDS may proceed with construction work in the area of discovery. <p>TDS shall ensure that the CPUC-approved archaeologist records the unanticipated resource on the appropriate DPR 523 forms. TDS shall submit the DPR 523 forms to the CPUC for review and approval within 48 hours of the find. The CPUC PM will approve or request changes to the DPR 523 forms within seven days of submittal by TDS. Once approved, TDS shall file the completed DPR 523 forms with the Northeast Information Center and shall provide a copy of the DPR 523 forms to the CPUC for its records.</p> <ul style="list-style-type: none"> • If the Wintu request further consultation on a resource, the CPUC-approved archaeologist, CPUC PM, and Wintu AB 52 or cultural representative will consult on the development of the Evaluation Plan and/or the Data Recovery Plan and all subsequent documentation. The review and approval will be sought in the same timeframe for both the CPUC and Wintu AB 52 or cultural representative as that described in MM CUL-3. If the Wintu indicate that consultation with them regarding the Evaluation Plan and/or Data Recovery Plan is not needed, only the CPUC review and approval will be required for this plan(s), along with subsequent fieldwork and documentation. <p>Once the CPUC-approved archaeologist, CPUC PM, and Wintu AB 52 or cultural representative approve the Evaluation Plan and/or Data Recovery Plan, TDS shall ensure that the CPUC-approved archaeologist implements the approved plan. If a Wintu monitor is requested as part of the Evaluation and/or Data Recovery Plan, the role of the monitor will be outlined in the Evaluation Plan and/or Data Recovery Plan.</p>

Environmental Determination

Pursuant to the Public Resource Code and CEQA Guidelines, the Lead Agency (CPUC) has prepared an IS for the proposed project to evaluate the proposed project's potential effects on the environment and to evaluate the level of significance of these effects. The IS relies on information in the TDS's PEA filed on August 5, 2015; TDS responses to data requests; project site reconnaissance by the CPUC environmental team in November 2016; the CPUC's independent analysis; and other environmental analyses.

Based on the IS, it is determined that the proposed project would not have a significant effect on the environment with the incorporation of the proposed APMs and mitigation measures. The IS is available for review at the CPUC, 505 Van Ness Avenue, San Francisco, California 94102 and at:

- Shasta County Library, Anderson Branch at 3200 West Center St., Anderson, CA 96007; and
- Shasta County Library, Redding Branch at 1100 Parkview Ave., Redding, CA 96001.

Review Period

All comments regarding the correctness, completeness, or adequacy of this IS/MND must be received by the CPUC no later than 5:00 p.m. of May 31, 2019.

The IS/MND, as well as TDS's PEA for the Olinda Project are available at the project's website:
<http://www.cpuc.ca.gov/environment/info/ene/olinda/olinda.html>

Contact Person

Connie Chen

Connie Chen, Project Manager
Infrastructure Permitting and CEQA
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

4/29/2019
Date

1. Initial Study Environmental Checklist Form

1.1 Project Title

Olinda Last Mile Underserved Broadband Project – [Resolution T-17411 and Resolution T-17517]

1.2 Lead Agency Name and Address

California Public Utilities Commission
Infrastructure Permitting and CEQA
505 Van Ness Avenue, 4th Floor
San Francisco, California 94102

1.3 Contact Person and Phone Number

Connie Chen, Project Manager
415-703-2124 or connie.chen@cpuc.ca.gov

1.4 Project Location

Shasta County, California

1.5 Sponsor's Name and Address

TDS Telecommunications Corporation
Attn: Nate Stanislawski
525 Junction Road
Madison, Wisconsin 53717

1.6 General Plan Designation

The Olinda Last Mile Underserved Broadband Project (Olinda Project, or the proposed project) area is located entirely within road right-of-ways (ROW) in areas generally classified as rural residential (R-R) and limited agriculture (A-1) in the Shasta County General Plan.

1.7 Zoning

R-R and A-1 designations allow for a single-family residential and agricultural uses, as well as non-agricultural uses such as bed and breakfasts and golf courses, on lots larger than 1 acre. A-1 also allows for additional agricultural uses such as medium-sized wineries, farm labor quarters, and agricultural processing facilities. Bureau of Land Management (BLM) lands near the western part of the proposed project area are zoned exclusive agriculture/agriculture preserve, which allow for—in addition to agricultural uses—low-intensity recreational uses. Several parcels classified as mixed use (MU) and public facilities (PF) are located near the intersections of Oak Street/Cloverdale Road and Palm Avenue/Happy Valley Road. MU allows for agricultural, residential, some commercial, and industrial land uses. PF allows for public uses such as parks, schools, hospitals, and facilities supporting other public services.

1.8 Description of Project

The Olinda Last Mile Underserved Broadband Project (Olinda Project, or proposed project) would involve construction of a second-generation, very-high-bit-rate digital subscriber line (VDSL2) fiber-optic cable network with 25-megabit-per-second (Mbps) download speed and 5-Mbps upload speed (25Mbps/5Mbps). Approximately 15.3 miles of new fiber-optic cable would be buried within protective conduit along existing roads in southwestern Shasta County. The proposed project would be funded in part by the California Advance Services Fund (CASF) and consists of installation of the following components:

- **New high-speed broadband fiber-optic cable:** TDS Telecom (TDS) would construct a VDSL2 fiber-optic network capable of 25 Mbps/5 Mbps download/upload speed. Approximately 15.3 miles of 96-count, shielded fiber-optic telecommunications cable within 1.25-inch-diameter, high-density polyethylene conduits would occur along existing roads within the proposed project area.
- **Equipment cabinets on top of buried vaults and cross-connect boxes at Digital Loop Carrier (DLC) sites:** TDS would construct seven new DLC sites and renovate up to six existing sites. Each DLC would consist of an equipment cabinet; a large, partially buried vault (handhole); and a cross-connect box. Equipment cabinets would be installed on top of the buried handholes. Gravel would be placed in a 20-square-foot area around each equipment cabinet.

The proposed alignment would run alongside County roads between Igo and the applicant's central office in Happy Valley. TDS has completed applications and submitted plans to the County to secure the required encroachment permits for locations where installations would occur along Shasta County roads. No additional ROW would be required. No construction work shall commence until the applicant has obtained all approvals.

1.9 Surrounding Land Uses and Setting

The Olinda Project would be located approximately 11 miles south of the city of Redding in unincorporated portions of southwestern Shasta County, near the communities of Happy Valley, Olinda, and Igo. The majority of the proposed project area is used for agriculture, with limited residential and commercial properties dispersed throughout. Public land managed by the BLM lies near the western portion of the proposed project area, but the proposed project is not within BLM jurisdiction.

1.10 Other Public Agencies Whose Approval is Required

In addition to the Authority to Construct required by the CPUC for overall project approval and California Environmental Quality Act (CEQA) review, Table 1-1 describes additional permits that the applicant will likely be required to obtain for project implementation.

Table 1-1 Required Permits and Approvals

Agency	Permit/Approval	Jurisdiction/Purpose
State Water Resources Control Board	Construction General Permit (Order 2009-0009-DWQ)	TDS would disturb more than 1 acre of land during proposed project construction.
Shasta County	Encroachment Permit	TDS would conduct work within Shasta County roadways.

2. Environmental Factors Potentially Affected

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

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

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3. Environmental Determination

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or **NEGATIVE DECLARATION** pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or **NEGATIVE DECLARATION**, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Connie Chen

Connie Chen, Project Manager
Infrastructure Permitting and CEQA
California Public Utilities Commission

4/29/2019
Date

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4. Project Description

4.1 Introduction

The Olinda Last Mile Underserved Broadband Project (Olinda Project, or the proposed project) would involve construction of a second-generation, very-high-bit-rate digital subscriber line (VDSL2) fiber-optic cable network with 25-megabit-per-second (Mbps) download speed and 5-Mbps upload speed (25Mbps/5Mbps). Approximately 15.3 miles of new fiber-optic cable would be buried in protective conduit in trenches within easements along existing roads in southwestern Shasta County.

The proposed project would be funded in part by the California Advance Services Fund (CASF). On October 3, 2013, the California Public Utilities Commission (CPUC) adopted Resolution T-17411 approving CASF funding of the Grant Application for construction of TDS Telecom's (TDS's, or the applicant's) proposed project. On May 12, 2016, the CPUC adopted Resolution T-17517 to provide additional CASF funding for the environmental review and completion of the proposed project.

Resolution T-17411 stipulates that prior to receiving CASF funding, the applicant is required to provide a Proponent's Environmental Assessment (PEA) and the CPUC must complete California Environmental Quality Act review. The applicant submitted a PEA to the CPUC on August 5, 2015.¹

4.2 Project Objectives

The CASF program provides funds for the deployment of broadband infrastructure in unserved and underserved areas of California. As described in Resolution T-17411, an underserved area is defined as where broadband is available, but no wireline or wireless facilities-based provider offers service at advertised speeds of at least 6 megabits per second (Mbps) downstream and 1.5 Mbps upstream (6 Mbps/ 1.5 Mbps). TDS has targeted the proposed project area for broadband deployment because the area is determined to be underserved. The applicant's stated objective is to make affordable broadband Internet services available to currently underserved areas in Shasta County.

The CPUC's Communications Division (CD) reviewed and analyzed data submitted by the TDS for the Olinda Last Mile Underserved Broadband Project to determine the project's eligibility for CASF funding. This data included but not limited to: description of current and proposed broadband infrastructure; shapefiles mapping the project areas, and assertion that the area is underserved. This helped to verify the existence or nonexistence of broadband service areas and broadband speeds, where available. CD determined that the project qualifies for funding under D. 12-02-015 and recommended Commission's approval of CASF funding for the Olinda Last Mile Underserved Broadband Project. When completed, the Olinda Project would reach an estimated 1,908 households at maximum advertised speeds of 25 Mbps/ 5 Mbps, which is above the served threshold of 6 Mbps/ 1.5 Mbps.

¹ The applicant's PEA and other source documentation referenced herein is available as part of the project's administrative record accessible via <http://www.cpuc.ca.gov/environment/info/ene/olinda/olinda.html>

4.3 Project Location

The proposed project would be located approximately 11 miles south of the city of Redding in unincorporated portions of southwestern Shasta County, near the communities of Happy Valley, Olinda, and Igo (Figure 4-1). The proposed alignment would run alongside County roads for approximately 15.3 miles between Igo and the applicant's central office in Happy Valley. The majority of the proposed project area is used for agriculture, with limited residential and commercial properties dispersed throughout. Public land managed by the Bureau of Land Management (BLM) lies near the western portion of the proposed project area, but the proposed project is not within BLM jurisdiction.

4.4 Project Components

The proposed project would consist of:

- Installation of new high-speed broadband fiber-optic cable; and
- Installation of equipment cabinets on top of buried vaults and cross-connect boxes at Digital Loop Carrier (DLC) sites.

4.4.1 Fiber-Optic Cable

The proposed project would involve the construction of a VDSL2 fiber-optic network capable of 25 Mbps/5 Mbps download/upload speed. Approximately 15.3 miles of shielded fiber-optic telecommunications cable within 1.25-inch-diameter, high-density polyethylene conduits would be installed along existing roads within the proposed project area. Installation would occur using a mix of directional boring and plowing and trenching (Figure 4-2).

4.4.2 Digital Loop Carrier Sites

Seven new DLC sites would be established and up to six existing sites would be renovated. DLC sites serve as connection points for customers and splice boxes for the fiber-optic cable. Each DLC would consist of an equipment cabinet; a large, partially buried vault (handhole); and a cross-connect box. Equipment cabinets would be approximately 2 by 3 by 4 feet in size and would be installed on top of the buried handholes. Each handhole would comprise an approximately 3- by 2.5- by 4-foot prefabricated epoxy box with an approximately 1-foot raised step that would remain unburied and that would be attached to an equipment cabinet. A small (8-inch by 8-inch by 2-foot) cross connect box would be installed near each equipment cabinet. Gravel would be placed in a 20-square-foot area around each equipment cabinet.

4.5 Right-of-Way Requirements

Installations associated with the proposed project would be sited in and along existing, Shasta County roads, roadways and right of ways. The applicant does not anticipate the need to disturb or acquire any new public or private lands. The applicant will acquire encroachment permits from Shasta County to install facilities, as approved, in an orderly and safe manner. The applicant has completed permit applications and submitted plans to Shasta County for review as required in order to secure these permits. No construction work shall commence until the applicant has obtained all approvals.

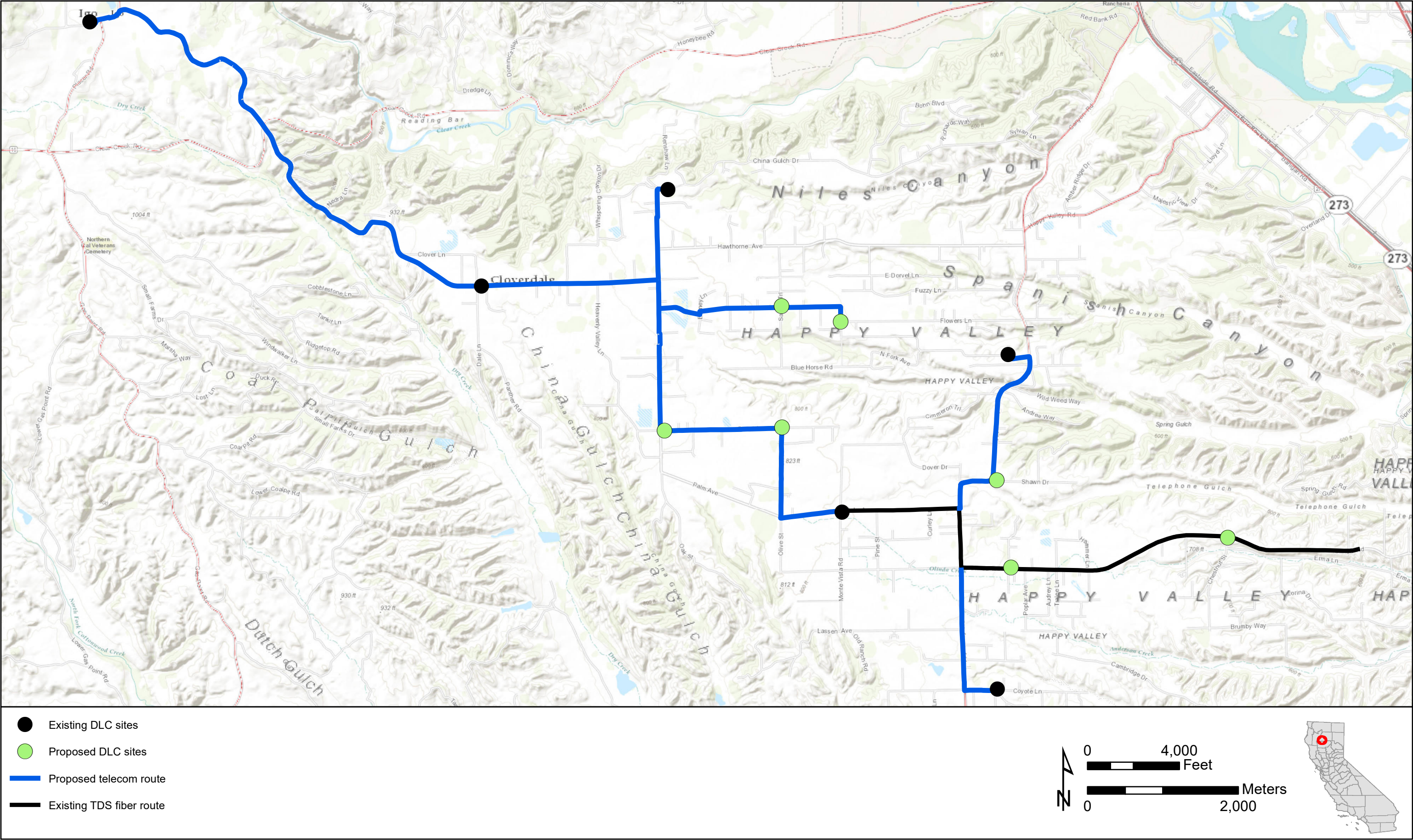


Figure 4-1
Project Overview

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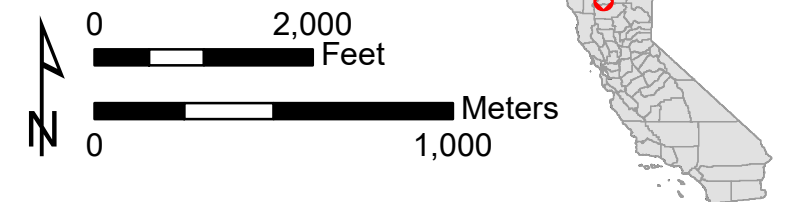


Figure 4-2
Project Detail

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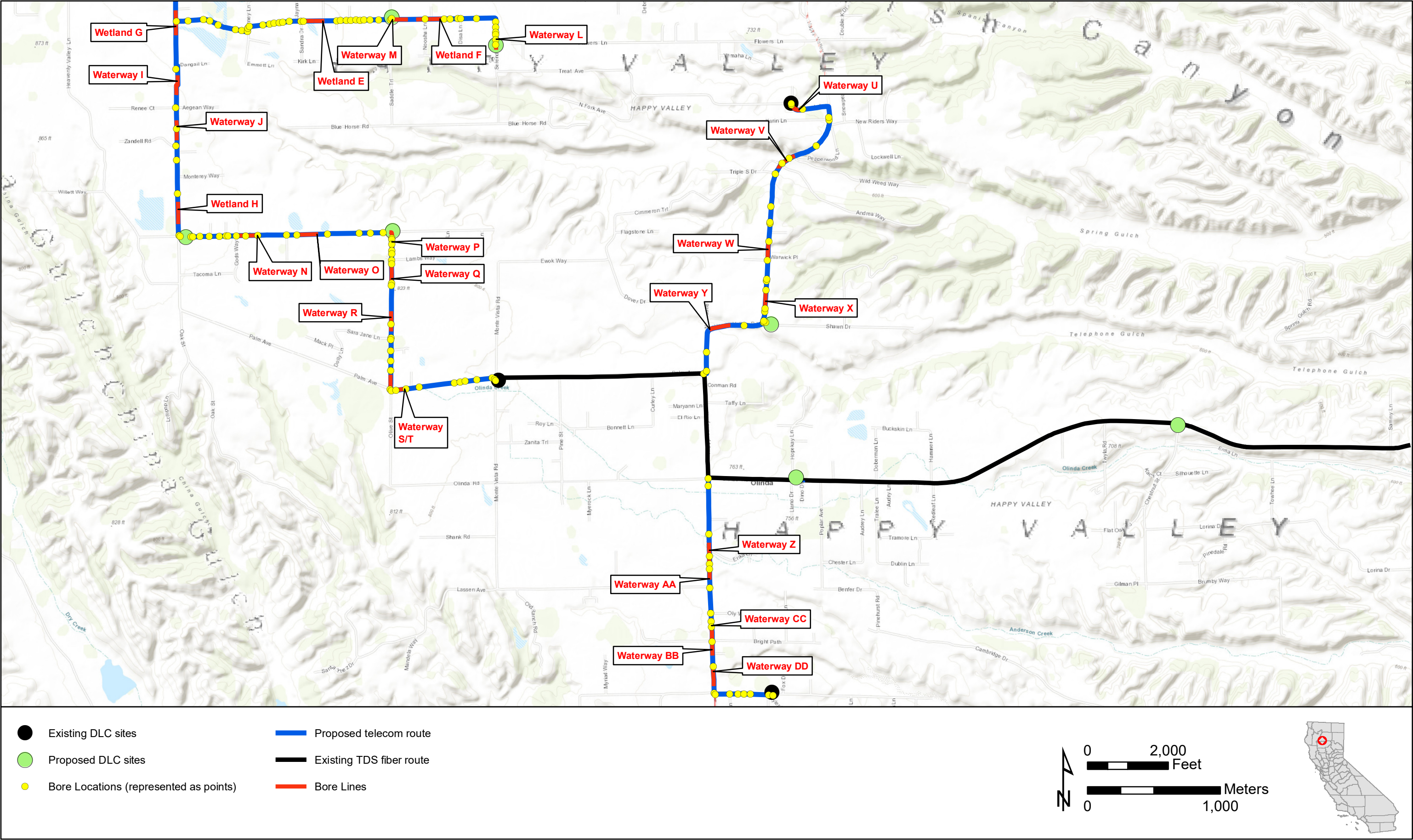


Figure 4-2B
Project Detail

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4.6 Construction Activities

Construction would occur along County roads in the proposed project area and consist of several phases. The fiber optic line installation would be initiated in Igo and the network would be built out from west to east along the alignment.

4.6.1 Staging Areas

The applicant does not anticipate that staging areas will be required. All equipment and material staging would occur at the applicant's Igo and/or Happy Valley Central office or at individual contractors' offsite yards. Spoil piles and equipment used for boring, plowing, and other types of construction would be left overnight in the ROW as allowed by the County or on adjacent private properties if permission from landowners is granted.

4.6.2 Fiber-Optic Cable Installation

Fiber-optic cable would be installed using a three-step process. First, protective conduit would be installed using plowing, trenching, or directional boring construction methods (directional boring would be utilized whenever the alignment crosses a road, paved driveway, waterway, or other surficial feature that could be impacted by ground disturbance). Second, pigging (forcing a cleaning sponge, or pig, through the conduit) would be used to lightly lubricate the conduit. Third, fiber-optic cable would then be blown through the conduit using compressed air. The splicing crew would splice together sections of cable where necessary.

Plowing and Trenching

Approximately 10.3 of the total 15.3 miles of the cable alignment would be plowed using a rubber-tread track-type bulldozer equipped with a specialized hydraulic single ripper. The hydraulic single ripper would enable plowing to occur offset from the bulldozer, allowing construction in the road shoulder while the equipment remains largely on the roadway. Conduit may be laid directly from a plow chute following the ripper or installed using a separate truck. Conduit would be placed at a nominal depth of 3.3 feet. A compaction machine would follow directly behind the plow bulldozer, restoring the ground surface to its original contour and burying the conduit. In cases where subsurface rock or other obstructions are present, a second bulldozer may be used to pre-rip the installation path and ease installation of the conduit. A single plow crew typically installs 1,000 feet of conduit per day.

In areas too narrow for plowing equipment, and where directional drilling is not required, trenching would be performed using a small excavator to avoid surface disturbance. The maximum ground disturbance associated with this work is an approximately 8-foot-wide corridor along the route. During a site visit in November 2016, the applicant estimated that ground disturbance would be limited and would occur within a utility easement of approximately 2 feet in width from roadway travel lanes.

Directional Boring

Approximately 5 miles of the total 15.3 miles of the cable alignment would be installed using directional boring. This method would be used to avoid disturbing resources on the surface such as cultural resources, large trees, roads, paved driveways, and water features. A directional boring crew can typically complete three to four bore shots per day. During each bore shot, up to 1,500 feet of conduit can be installed. Each bore shot begins with the creation of a boring pit and pilot hole. The operator guides a steerable drill bit through the pilot hole and along the desired boring path. After the hole has been bored, conduit is attached to the end of the drill string and pulled back through the bore.

This method would require two boring pits (one on either end of the bore shot) for bore ingress and egress. Bore pit locations and distance apart would be determined in the field and dependent on the anticipated bore path. Depth of bores would be at least 5 feet below the bed of waterways, surface of roads, or other surficial obstructions. Bore hole diameter would be slightly larger than the conduit diameter (2 inches) and drilled using drilling mud. Drilling mud, which is used to ease the drilling process, is typically a mix of water, bentonite, and clay. Following installation of the conduit, bore pits would be filled and compacted. Directional boring along the line would be completed prior to the installation of conduit using plowing or trenching techniques.

4.6.3 Digital Loop Carrier Installation

DLC site installation would last approximately five days per site and consist of excavating a 3-foot-wide by 6-foot-long by 4-foot-deep hole using a backhoe. At the bottom of each hole, 12 inches of crushed 1-inch gravel would be placed. The handhole would be placed in the hole and the hole backfilled using excavated material. Approximately 1 foot of the handhole would remain above ground and function as a step upon which an equipment cabinet would be installed. Excess excavated material would be used as needed for compaction or hauled offsite and disposed of by the contractor. Cross-connect boxes would be installed within 20 feet of equipment cabinets.

4.6.4 Surface Restoration

Site clean-up and surface restoration would take place following telecommunication line and DLC site installations, and would typically be required to be completed within 24 hours of installation completion. No more than 1,000 linear feet of disturbance would be allowed at any given time. Clean-up would include removing all construction debris and trash. Surface restoration would include compacting excavated soil and returning surface contours to pre-existing conditions. Where necessary, vegetation would be restored in a manner consistent with County and/or California Department of Transportation standards utilizing seed mixes specific to the region.

4.6.5 Construction Workforce and Equipment

The applicant anticipates that one plow-trenching crew, two directional-boring crews, one splice crew, and one clean-up crew would be required for installation of the fiber-optic cable. One additional crew would be necessary to install the DLC sites. Table 4-1 depicts the estimated workforce by project construction phase. A total of 22 workers are expected to be needed.

Table 4-1 Total Anticipated Workforce

Project Phase	Number of Crews	Maximum Workers per Crew	Total Workforce per Construction Phase
Plowing/trenching	1	4	4
Directional boring	2	4	8
Splice crew	1	4	4
Clean-up crew	1	4	4
Node (DLC) site crew	1	2	2
Maximum # of workers	-	-	22

Key:
DLC Digital Loop Carrier

4.6.6 Construction Schedule

The applicant anticipates construction beginning 90-120 days following project approval. Project construction would take place over an approximately 60-120-day period. Work is anticipated to occur in phases, with some overlap in work activity. For any given portion of the proposed alignment, directional boring would occur prior to that portion being plowed or trenched. A splice crew would follow and connect portions of fiber-optic line together. Following construction of a portion of the alignment, crews would perform site clean-up and surface restoration.

4.7 Operation and Maintenance

Operation and maintenance associated with the new telecommunications network would be minimal. Occasional visits by TDS technicians to the DLC sites would be required in order to check on equipment and connect or disconnect customers.

4.8 Applicant Proposed Measures

TDS included applicant proposed measures (APMs) in its August 2015 PEA, as listed in Table 4-2. Since the PEA was submitted in August 2015, the applicant has modified the project alignment and incorporated several APMs into the project design. These APMs are noted in Table 4-2 as project design features (PDF) and are not discussed in the respective resource sections, nor included in Chapter 6 “Mitigation Monitoring and Reporting Plan” because the measures are already incorporated into the project. The remaining APMs are categorized as avoidance/minimization measures (AMM), which are anticipated to reduce a potentially significant impact to a less-than-significant level. AMMs are included in Chapter 6 “Mitigation Monitoring and Reporting Plan.”

Mitigation Measure (MM) GEN-1 requires implementation of these APMs, which are anticipated to mitigate, avoid, or minimize impacts regarding Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology, Noise, and Traffic. Therefore, the impact analysis for these noted resource areas apply these APMs to reduce impacts to less than significant.

Table 4-2 Applicant Proposed Measures

APM Number	Description	PDF/AMM
Air Quality		
APM AQ-1	<p>TDS will require all construction contractors to implement the following measures for fugitive Particulate Matter (PM) less than 10 microns in diameter (PM10) control during construction:</p> <ul style="list-style-type: none"> All disturbed areas, including bulk material storage that is not being actively utilized, shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover. All on- and off-site unpaved roads will be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by non-toxic chemical stabilizers, dust suppressants, and/or watering. All track-out and carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 15 linear m (50 linear feet) or more onto a paved road within an urban area. 	AMM

Table 4-2 Applicant Proposed Measures

APM Number	Description	PDF/AMM
	<ul style="list-style-type: none"> Bulk material shall be stabilized prior to movement or at points of transfer with the application of sufficient water, the application of chemical stabilizers, or by sheltering or enclosing the operation and transfer line. Vehicle speed for all construction vehicles shall not exceed 24.1 km (15.0 miles) per hour on any unpaved surface at the construction site. 	
Biological Resources		
APM BIO-1	All waterways and wetlands in the project area will be bored beneath and avoided during construction.	PDF
APM BIO-2	Bore pits will be placed a minimum distance of 5 m (16 feet) beyond either the top of waterway banks or the maximum extent of any vegetation present along the waterways' margins.	AMM
APM BIO-3	Bore pits will be placed a minimum distance of 76 m (250 feet) beyond either the edge of seasonal wetlands or the maximum extent of any vegetation present along the wetlands' margins.	AMM
APM BIO-4	A Stormwater Pollution Prevention Plan (SWPPP) will be developed and will include Best Management Practices (BMPs) that will be implemented during construction to minimize or eliminate sediment transport from areas subject to ground disturbance.	AMM
APM BIO-5	All orchards will be avoided during construction.	AMM
APM BIO-6	No trees will be removed during project construction. If vegetation trimming is required to complete the installations, trimming will be kept to the absolute minimum necessary.	AMM
Cultural Resources		
APM CR-1	Happy Valley Ditch will be avoided via subsurface boring.	PDF
APM CR-2	Cloverdale Cemetery and the Igo Inn will be avoided by rerouting the fiber-optic lines to the opposite side of the road.	PDF
APM CR-3	In the event that undiscovered historical or archaeological resources are encountered by construction personnel, all ground-disturbing activities within 30.5 m (100.0 feet) of the find in non-urban areas and 15.2 m (50.0 feet) in urban areas will be temporarily halted or diverted and a qualified archaeologist will be contacted to assess the discovery.	AMM
APM CR-4	If human remains are discovered or recognized in any location, construction personnel will suspend further excavation or disturbance of the site and any nearby areas reasonably suspected to overlie adjacent human remains until the County coroner has been informed and has determined that no investigation of the cause of death is required.	AMM
APM CR-5	In the event that fossil remains are encountered by construction personnel, qualified paleontological specialists will be contacted. Construction within 30.5 m (100.0 feet) of the find in non-urban areas and 15.2 m (50.0 feet) in urban areas will be temporarily halted or diverted until a qualified vertebrate paleontologist examines the discovery.	AMM
Geology and Soils		
APM GEO-1	TDS will require the contractor to manage construction-induced sediment and excavated spoils in accordance with the requirements of the State Water Resources Control Board (SWRCB) and U.S. Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) permits for stormwater runoff associated with construction activities.	AMM
APM GEO-2	Prior to the onset of construction, TDS or its authorized contractor will complete a SWPPP that outlines BMPs to control discharges from construction areas.	AMM
APM GEO-3	No construction-related materials, wastes, spills, or residues will be discharged from the project.	AMM
APM GEO-4	The staging of construction materials, equipment, and excavation spoils will be performed outside of drainages.	AMM

Table 4-2 Applicant Proposed Measures

APM Number	Description	PDF/AMM
APM GEO-5	Excavated or disturbed soil will be kept within a controlled area surrounded by a perimeter barrier that may include silt fence, hay bales, straw wattles, or a similarly effective erosion control technique that prevents the transport of sediment from a given stockpile.	AMM
APM GEO-6	All stockpiled material will be covered or contained in such a way that off-site runoff is eliminated.	AMM
APM GEO-7	Upon completion of construction activities, excavated soil will be replaced and graded so that post-construction topography and drainage matches pre-construction conditions.	AMM
APM GEO-8	Surplus soil will be transported from the site and disposed of appropriately.	AMM
Hazards and Hazardous Materials/Fire Safety		
APM HAZ-1	TDS and/or their contractor will ensure proper labeling, storage, handling, and use of hazardous materials in accordance with BMPs and the Occupational Safety and Health Administration's (OSHA's) Hazardous Waste and Operations and Emergency Response (HAZWOPER) requirements.	AMM
APM HAZ-2	TDS and/or their contractor will ensure that employees are properly trained in the use and handling of hazardous materials and that each material is accompanied by a Material Safety Data Sheet (MSDS).	AMM
APM HAZ-3	Any small quantities of hazardous materials stored temporarily in staging areas will be stored on pallets within fenced and secured areas and protected from exposure to weather. Incompatible materials will be stored separately, as appropriate.	AMM
APM HAZ-4	All hazardous waste materials removed during construction will be handled and disposed of by a licensed waste disposal contractor and transported by a licensed hauler to an appropriately licensed and permitted disposal or recycling facility to the extent necessary to ensure the area can be safely traversed.	AMM
APM HAZ-5	Spill clean-up kits will be provided and kept on-site during construction, and equipment will remain in good working order to prevent spills. Significant releases or threatened releases of hazardous materials will be reported to the appropriate agencies.	AMM
APM HAZ-6	Workers shall be instructed regarding the danger of wildland fire and the need to carefully park equipment in areas without dry, brushy vegetation. All work vehicles shall be equipped with a working fire extinguisher. All cigarettes and trash shall be disposed of in proper containers and taken off-site at the end of the day.	AMM
Noise		
APM NOI-1	All construction equipment operation shall be limited to the hours of 7 a.m. to 7 p.m. Monday through Friday. No construction operations shall occur on weekends or holidays or during nighttime hours.	AMM
Traffic		
APM TRA-1	TDS and/or their contractors will require the project contractor to obtain all necessary local road encroachment permits prior to construction and will comply with all the applicable conditions of approval.	AMM
APM TRA-2	If required by the applicable jurisdiction issuing a road encroachment permit, TDS shall require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction.	AMM
APM TRA-3	TDS and/or their contractors will develop circulation and detour plans to minimize impacts to local street circulation. This will include the use of signing and flagging to guide vehicles through and/or around the construction zone.	AMM
APM TRA-4	TDS and/or their contractors will schedule truck trips outside of peak morning and evening commute hours.	AMM
APM TRA-5	TDS and/or their contractors will limit lane closures during peak hours to the extent possible.	AMM

Table 4-2 Applicant Proposed Measures

APM Number	Description	PDF/AMM
APM TRA-6	TDS and/or their contractors will include detours for bicycles and pedestrians in all areas potentially affected by project construction.	AMM
APM TRA-7	TDS and/or their contractors will install traffic control devices as specified in the <i>California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones</i> .	AMM
APM TRA-8	TDS and/or their contractors will coordinate with local transit agencies for the temporary relocation of routes or bus stops in work zones as necessary.	AMM
Utilities and Service Systems		
APM PSU-1	TDS and/or their contractors will recycle solid waste generated during construction, to the extent practicable.	AMM

Key:

AMM avoidance/minimization measure
APM applicant-proposed measure
BMP best management practices
EPA U.S. Environmental Protection Agency
HAZWOPER Hazardous Waste and Operations and
Emergency Response
km kilometers
m meters
MSDS Material Safety Data Sheet

NPDES National Pollutant Discharge Elimination System
OSHA Occupational Safety and Health Administration
PM particulate matter
PM10 particulate matter less than 10 microns in diameter
PDF project design feature
SWPPP Stormwater Pollution Prevention Plan
SWRCB State Water Resources Control Board
TDS TDS Telecomm

4.9 Permits and Approvals

Table 4-3 lists permits and approvals necessary for the construction of the proposed project.

Table 4-3 Permits and Approvals Required for Construction

Agency	Permit/Approval	Requirement
State Water Resources Control Board	Construction General Permit (Order 2009-0009-DWQ)	TDS would disturb more than 1 acre of land during proposed project construction.
Shasta County Public Works	Encroachment Permit	TDS would conduct work within Shasta County roadways.
California Public Utilities Commission	Mitigated Negative Declaration	
California Public Utilities Commission	PROJECT APPROVAL ACTION	

Note: Since waterways, wetlands, and threatened and endangered species and habitat will be avoided through directional drilling, no permits will be required from the United States Army Corps of Engineers or Regional Water Quality Control Board.

5. Environmental Setting and Impact Analysis

5.1 Aesthetics

5.1.1 Environmental Setting

This analysis evaluates the potential for the Olinda Last Mile Underserved Broadband Project (Olinda Project, or the proposed project) to impact the visual character or scenic resources within the proposed project area. The methodology for describing the existing environmental setting of the proposed project area is based on the Federal Highway Administration's (FHWA's) guidelines for visual impact assessment for highway projects (FHWA 1981, 2015). This methodology is commonly used to assess the potential aesthetic impacts of various types of development projects on both public and private lands within a variety of landscapes, including natural, rural, suburban, and urban settings.

This aesthetic impact assessment process involves identifying:

- Aesthetic character and quality of proposed project area;
- Important viewing locations (e.g., roads, trails, residential neighborhoods, parks, and overlooks) and the general visibility of the proposed project area and the site using descriptions and photographs;
- Viewer groups and their sensitivity (e.g., general viewer awareness and concern for views and changes to those views);
- Relevant federal, state, and local government policies and concerns for protection of aesthetic resources;
- Potential aesthetic impacts of the proposed project and their levels of significance; and
- Mitigation measures that would reduce potential aesthetic impacts of the proposed project.

A description of vividness, intactness, and unity define aesthetic character and quality.

- **Vividness.** The visual power or memorability of landscape components as they combine in striking or distinctive visual patterns.
- **Intactness.** The visual integrity of the natural and human-built landscape and its freedom from encroaching elements. This factor can be present in well-kept urban and rural landscapes, as well as in natural settings.
- **Unity.** The visual coherence and compositional harmony of the landscape considered as a whole. It frequently attests to the careful design of individual components in the landscape. (FHWA 1981)

Viewer sensitivity is also considered when determining the impacts of a visual change; however, the proposed project would be sited entirely within road ROW, and there are no designated scenic highways in the proposed project area. As further described, viewer exposure would be fleeting (i.e., occur in the context of driving), and aboveground infrastructure associated with project (i.e., 4-foot-high equipment cabinets) would be in line with typical roadside infrastructure, viewer sensitivity is expected to be minimal.

Existing Visual Character

The existing visual character of the proposed project area is predominately rural, bucolic, and natural. The landscape of the proposed project area is a mix of natural, agricultural, and rural residential, interspersed with a few small community centers, schools, and small businesses. Natural areas are more prevalent in the western portion of the proposed project area and surrounding areas, but are interspersed throughout the proposed project area. Agricultural lands consist primarily of pasture and grazing lands and small orchards. Rural residences are scattered throughout the proposed project area and tend to be located on large lots, often with fenced pastures and fields.

Much of the proposed project would be located in the generally flat to gently rolling terrain of several small valleys. The valleys are enclosed by rolling to steep and rugged hills. Much of the southern and central portion of the proposed project would be located in the Happy Valley area, which contains the community of Olinda and the largest number of residences and businesses. The western portion of the proposed project area between Cloverdale and Igo is the most rugged and natural and contains only a few scattered residences. A number of small creeks and drainages run through the proposed project area, including Spring Gulch, Telephone Gulch, and Dry Creek. The much larger Clear Creek runs west to east through rugged terrain just north of the proposed project area. Many of these drainages show evidence of dredging and hydraulic mining that occurred during the gold rush of the mid-1800s. A large transmission line consisting of tall metal lattice towers is a dominant feature that runs north-south through the central portion of the proposed project area and just west of Olinda.

Vegetation is predominantly a mix of native oaks, foothill pines, shrublands, and grasslands with cultivated orchards, pastures, and landscape plants associated with residences and other developed areas. Dense riparian vegetation occupies the corridors of most of the small creeks and drainages in the area.

Although natural and agricultural open space is prominent, much of the land in the proposed project area is under private ownership and there are few publicly accessible parks or open space areas. The exception is the large complex of Bureau of Land Management (BLM) and state lands along Clear Creek that borders the proposed project area to the north. The BLM's Cloverdale Trailhead, located along Cloverdale Road between Cloverdale and Igo, provides access to this area.

Scenic elements that contribute to its rural, bucolic character include orchards, pastures, fences, wood power poles, and winding roads visible throughout most of the area. The low, rugged hills covered in dense, natural vegetation surrounding and interspersed throughout the proposed project area are prominent scenic features that contribute to the landscape's natural visual character.

Viewpoints and Viewer Sensitivity

To establish the baseline environmental setting, key public viewpoints (VPs) have been identified to represent typical views within the proposed project area. VPs were selected because they are accessible to most people and provide representative views of the surrounding area. Figure 5.1-1 shows the location of each of the four key VPs within the proposed project area, Figure 5.1-2 shows an example of an existing digital loop carrier (DLC) cabinet in the proposed project area, and Figures 5.1-3a and 5.1-3b show ground-level views from these locations. Private views are not included in the analysis.

- **Key VP 1:** View southwest from entry to Cloverdale Trailhead on Cloverdale Road, approximately 1.2 miles east of Igo.
- **Key VP 2:** View east from a location near rural residences along Cloverdale Road, approximately 2.5 miles west of its intersection with Oak Street.
- **Key VP 3:** View north near the intersection of Scout Street and Olive Street.
- **Key VP 4:** View north from the intersection of Happy Valley Road and Shawn Drive.

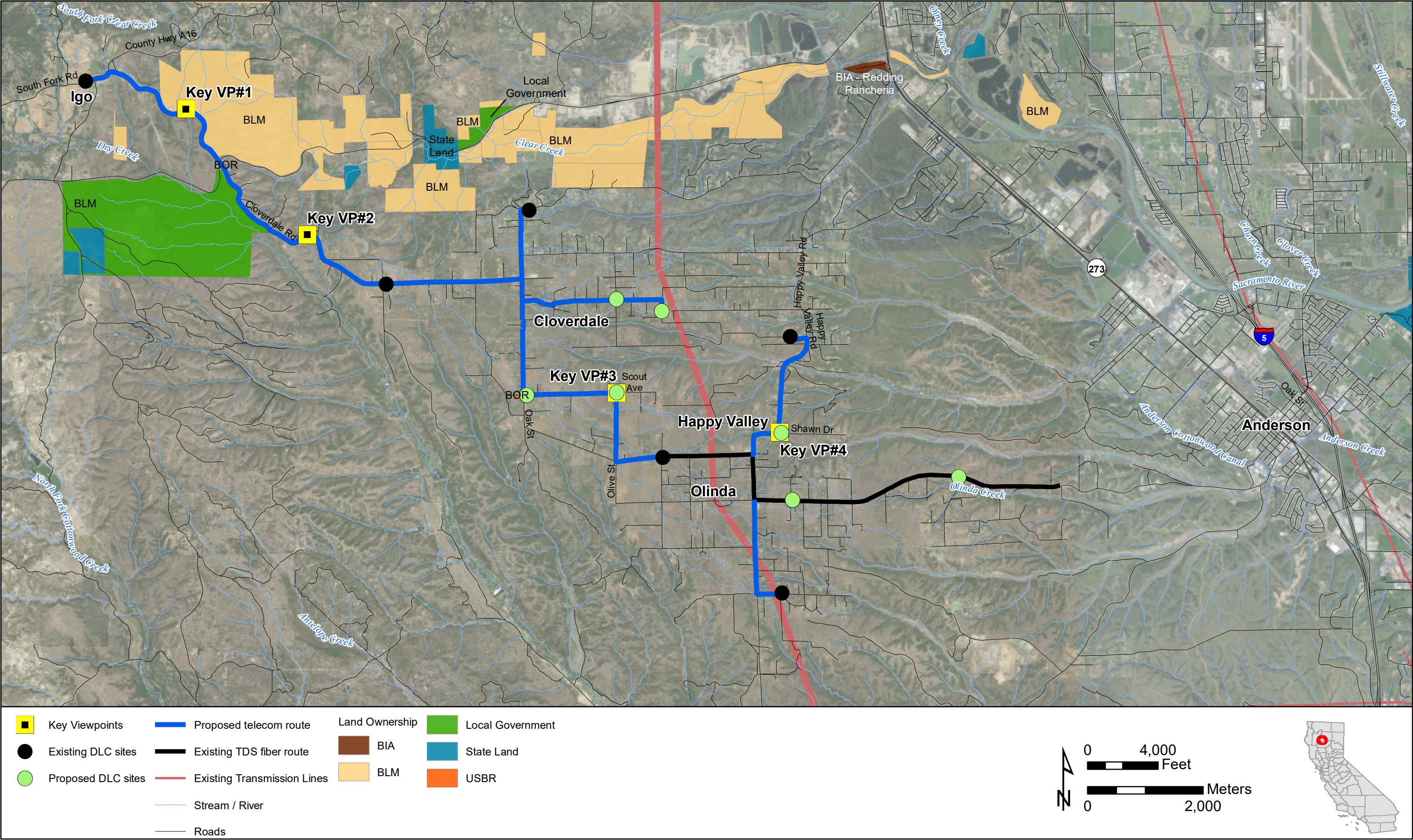


Figure 5.1-1
Key Viewpoints in the Project Area

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Figure 5.1-2 Existing DLC (equipment cabinet) in Project Area



Figure 5.1-3a Key Viewpoints 1 and 2



Figure 5.1-3b Key Viewpoints 3 and 4

State Scenic Highways

There are no Designated or Eligible State Scenic Highways in or near the proposed project area. The nearest Eligible State Scenic Highway to the proposed project is State Route 299, located over 6 miles north of the proposed project area (Caltrans 2011). The proposed project would not be visible to motorists on this highway. Because there are no designated scenic highways in the proposed project area, the FHWA assessment methodology is applied for evaluative and informational purposes only.

Nighttime Lighting

Existing nighttime lighting in the proposed project area includes streetlights, traffic signals, and lighting associated with residences, schools, and small businesses throughout the area.

5.1.2 Regulatory Setting

Federal

There are no federal regulations applicable to the proposed project that are related to aesthetics. Although the proposed project route would be located near BLM land, the proposed project would not cross BLM land and there is no federal jurisdictional authority for the proposed project.

State

The California Department of Transportation (Caltrans) administers the State Scenic Highway Program to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways, per California Streets and Highways Code § 260, et seq. There are currently no Designated or Eligible State Scenic Highways that may have views of the proposed project within the proposed project area; therefore, the FHWA assessment methodology is applied for evaluative and informational purposes only.

Local

Shasta County General Plan. Section 6.8 of the Shasta County General Plan identifies scenic features within the county that include focal points, gateways, transitions, state scenic routes, and important corridors (Shasta County 2004). County Road A16 (Placer Road) is the only scenic feature identified in the General Plan that is located in the proposed project area. The westernmost portion of the proposed project would extend along the edge of this road for approximately 0.2 mile from the intersection of County Road A16 and Cloverdale Road east of Igo to the intersection of County Road A16 and South Fork Road in approximately the center of Igo. The General Plan identifies this section of County Road A16 as a “corridor in which natural environment is dominant.” However, most of this section is developed with residences and small businesses.

Policy SH-a in Resources Group 6.8 may apply to this portion of County Road A16 and states the following:

- *To protect the value of the natural and scenic character of the official scenic highway corridors and the County gateways dominated by the natural environment, the following provisions, along with the County development standards, shall govern new development:*
 - *setback requirements*
 - *regulations of building form, material, and color*
 - *landscaping with native vegetation, where possible*
 - *minimizing grading and cut and fill activities*

- requiring use of adequate erosion and sediment control programs
- siting of new structures to minimize visual impacts from highway
- regulation of the type, size, and location of advertising signs
- utility lines shall be underground wherever possible; where undergrounding is not practical, lines should be sited in a manner which minimizes their visual intrusion.

5.1.3 Environmental Impacts and Mitigation Measures

The impact analysis below identifies and describes the proposed project's potential impacts on aesthetic resources within the proposed project area. Potential impacts were evaluated according to significance criteria based on the checklist items presented in Appendix G of the California Environmental Quality Act (CEQA) Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase's effects warrant a more detailed evaluation. As noted above, there are no Designated or Eligible State Scenic Highways within the proposed project area with views of the proposed project. There would be no impact under criterion (b) and a detailed discussion is therefore not provided. The FHWA assessment methodology is applied in other criterion discussions for evaluative and informational purposes only.

Applicant Proposed Measures

The applicant has not proposed any APMs to specifically minimize or avoid potential impacts on aesthetics; however, APMs proposed from other resources sections, as further described below, would be applied to further reduce a potential impact to less than significant. A list of all project APMs is included in Table 4-2 in Chapter 4.

Significance Criteria

Table 5.1-1 describes the significance criteria from Appendix G of the CEQA Guidelines' aesthetics section, which the California Public Utilities Commission used to evaluate the environmental impacts of the proposed project.

Table 5.1-1 Aesthetics Checklist

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

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

Shasta County has not identified any scenic vistas in the proposed project area. County Road A16 (Placer Road) is treated as a scenic vista due to its natural qualities, per the Shasta County General Plan (refer to Section 5.1.2, “Regulatory Setting”). Fiber optic cable would be installed along approximately 1,000 feet of County Road A16. Construction activities and features that may increase visual contrast and reduce vividness, intactness, and unity of the scenic vistas of County Road A16 include:

- Vehicles and equipment used for excavation and grading activities, transporting and lifting, watering to control dust, transporting workers, and other construction activities;
- Soil and vegetation removal and grading for installation of the buried fiber-optic telecommunications cable (telecom line); and
- Temporary outdoor storage of materials, stockpiling of spoils from excavation, security fencing, and construction signage.

Construction equipment and activities would introduce new and additional elements in short-range views (i.e., up to 100 feet). These elements would not be visible in mid-range (i.e., 101 to 500 feet) or long-range (i.e., greater than 500 feet) views. The short duration of construction activities visible from County Road A16, would result in the proposed project having temporary, intermittent effects on the vividness, intactness, and unity of scenic views along County Road A16 during construction. However, construction of the proposed project would occur over 60-120 days, and due to the linear nature of project construction, construction activities along this section of County Road A16 would likely have a shorter duration. Following installation of the telecom line, disturbed areas would be re-graded and restored, resulting in minimal long-term evidence of change to the landscape along the road edge. The only aboveground features would be 4-foot-tall fiberglass line markers every 1,000 feet (i.e., approximately two markers along County Road A16). Drivers would have fleeting views of these markers in the context of other typical roadside structures (e.g., signs, utility poles, etc.). The markers, therefore, would not substantially reduce the vividness, intactness, or unity of scenic views, and the proposed project would not have a significant impact on scenic vistas during operation or maintenance. For these reasons, the impact would be less than significant and would not require mitigation measures. In addition, the applicant would implement **APM BIO-6**, which includes avoiding tree removal and minimizing vegetation trimming, which would minimize any potential impact to aesthetics.

Significance: Less than significant.

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

The FHWA assessment methodology was applied for the proposed project to establish a baseline environmental setting, identify and describe the project viewers, and select VPs from which to estimate the level of contrast that would be introduced by the proposed project (FHWA 1981). Because there are no designated scenic highways in the proposed project area, this methodology is applied for evaluative purposes only. Descriptions of the visual character, vividness, intactness, unity, and viewer sensitivity for the four key VPs are provided in Table 5.1-2. Each of the key VPs represent views from publicly accessible locations.

Table 5.1-2 Visual Character, Quality, and Sensitivity at Key View Points

View-points	Visual Character	Vividness	Intactness	Unity	Viewer Sensitivity
Key VP 1	Primarily natural, with some human-built elements. Terrain is gently rolling to flat. Dominant natural elements in the view include dense stands of native trees (primarily oak trees and foothill pines), and open grasslands. The winding two-lane road is a dominant human-built element. Native shrubs and metal-post, wire fences are also visible on both sides of the road.	<i>High</i> , due to the dominance of natural features and the winding rural road. Landscape components combine in striking and distinctive visual patterns.	<i>High</i> , due to high visual integrity of primarily natural landscape with few encroaching elements.	<i>High</i> , due to strong visual coherence and compositional harmony of the natural vegetation forms and curving rural road.	<i>Moderately high</i> , because it is experienced on a regular basis by recreationists using the BLM trailhead and by local area residents traveling the road on a regular basis for personal business and leisure. Less sensitive viewers include non-resident motorists traveling for work.
Key VP 2	Primarily natural and rural residential. Terrain is flat. Dominant elements in the view include native trees (primarily foothill pines), a manicured grass pasture, and the curving two-lane road. Also visible but not dominant are native shrubs, open grasslands, a residence, a road sign, wood- and metal-post wire fences, and a wood fence.	<i>High</i> , due to the dominance of natural and rural landscape features and the winding rural road. Landscape components combine in distinctive visual patterns.	<i>High</i> , due to high visual integrity of primarily natural and well-kept rural landscape features with few encroaching elements.	<i>High</i> , due to strong visual coherence and compositional harmony of the natural vegetation forms, curving rural road, and unobtrusive fences and other elements common in rural landscapes in the region.	<i>Moderately high</i> , because it is experienced on a regular basis, primarily by local area residents in the vicinity traveling regularly on the road for personal business and leisure. Less sensitive viewers include non-resident motorists traveling for work and leisure.
Key VP 3	Primarily natural and rural residential. Terrain is flat. Dominant natural elements in the view include native and other trees (primarily foothill pines and oaks) and shrubs.	<i>Moderate</i> , due to the mix of natural and rural landscape features, rural roads, and other elements of varied forms. Although trees and other vegetation are prominent, the	<i>Moderate</i> , due to the presence of some encroaching elements, including the tall utility pole, other utility features, the shiny metal gate, the street sign, and the cluster mailboxes.	<i>Moderate</i> , due to the mix of elements with varying forms, lines, and colors. Although the trees and other vegetation are prominent, the variety of built elements reduce	<i>Moderately high</i> , because it is experienced on a regular basis primarily by local area residents in the vicinity traveling for personal business and leisure. Less-

Table 5.1-2 Visual Character, Quality, and Sensitivity at Key View Points

View-points	Visual Character	Vividness	Intactness	Unity	Viewer Sensitivity
	Dominant human-built elements include narrow, unlined, rural roads; a street sign; metal cluster mailboxes; a metal gate; and a tall wood utility pole and conductors. Also visible but not dominant are grassy patches near the road, a small portion of a pasture, wire fences, small utility elements, and distant hills in the background.	landscape components are varied and do not combine in striking or distinctive visual patterns.	Although trees and other vegetation are prominent, the encroaching elements reduce the overall visual integrity of this view.	the overall visual coherence and compositional harmony of the view.	sensitive viewers include non-resident motorists traveling for work and leisure.
Key VP 4	Primarily natural and rural residential. Terrain is flat to gently rolling. Dominant natural elements in the view include native and other trees (primarily foothill pines, oaks, and orchard trees), and native shrubs. Dominant human-built elements include the winding rural road; metal road signs, and tall wood utility poles and conductors. There are also grassy patches near the road.	<i>Moderate</i> , due to the mix of natural and rural landscape features, the rural road, and other elements of varied forms. Although trees and other vegetation are prominent, the landscape components are varied and do not combine in striking or distinctive visual patterns.	<i>Moderate</i> , due to the presence of some encroaching elements, primarily the tall wood utility poles, and metal signs. Although trees and other vegetation are prominent, the encroaching elements reduce the overall visual integrity of this view.	<i>Moderate</i> , due to the mix of elements with varying forms, lines, and colors. Although the trees and other vegetation are prominent, the variety of structures reduce the overall visual coherence and compositional harmony of the view.	<i>Moderately high</i> , because it is experienced on a regular basis primarily by local area residents in the vicinity traveling for personal business and leisure. Less sensitive viewers include non-resident motorists traveling for work and leisure.

Construction activities and features that may increase visual contrast and reduce vividness, intactness, and unity within the proposed project area include:

- Vehicles and equipment used for excavation and grading activities, transporting and lifting, watering to control dust, worker transport, and other construction activities;
- Soil and vegetation removal and grading for installation of the buried telecom line; and
- Temporary outdoor storage of materials, stockpiling of spoils from excavation, security fencing, and construction signage.

As described, construction equipment and activities would introduce new and additional elements in short-range views (i.e., up to 100 feet). These elements would not be visible in mid-range (i.e., 101 to 500 feet) or long-range (i.e., greater than 500 feet) views. Construction of the proposed project would occur over 60-120 days and, due to the linear nature of project construction, construction activities within the proposed project area would likely have a shorter duration. The presence of construction activities and equipment at locations throughout the proposed project area would be temporary and cause minimal changes to the visual quality and character of the area. The short duration of construction activities would result in the proposed project having temporary, intermittent effects that would not substantially degrade the existing visual character or quality of the site during construction. Following installation of the telecom line, disturbed areas would be re-graded and restored, resulting in minimal long-term evidence of change to the landscape along the road edge. Aboveground features would include seven new digital loop carriers, which would consist of 4-foot-high equipment cabinets, and 4-foot-high fiberglass line markers installed approximately every 1,000 feet along the buried telecom line. The new equipment cabinets would be similar in size and form to the existing equipment cabinet shown in Figure 5.1-2, except the new cabinets would be warm gray in color. Impacts to key VPs are described in Table 5.1-3.

Table 5.1-3 Impacts to Key View Points

Viewpoints	Description of Impacts from Proposed Project	Impact
Key VP 1 (Figure 5.1-3a) Representative of the view looking southwest from the entry to Cloverdale Trailhead on Cloverdale Road, approximately 1.2 miles east of Igo (Figure 5.1-1). The proposed project would be located along the south edge of the road (i.e., the left side of the photo) opposite to the trailhead.	No equipment cabinets would be located in this area. Up to one fiberglass line marker could potentially be visible along the road edge in this view; however, because of its relative small size (i.e., 4-foot-high equipment cabinets compared to 12-foot-high telephone poles), it would be similar to or less obtrusive than other typical roadside structures, including the existing fiberglass marker at the far right of the view and nearby fences. Once the disturbed corridor along the road edge is restored and vegetation is established, it is unlikely the proposed project features would be noticeable to viewers.	Less than significant. Given the minimal visual change, which is limited to short-term changes due to ground disturbance and the potential presence of up to one line marker, the proposed project would result in minimal contrast and would not substantially reduce vividness, intactness, or unity relative to the existing conditions.
Key VP 2 (Figure 5.1-3a) Representative of the view looking east from a location near rural residences along Cloverdale Road approximately 2.5 miles west of its intersection with Oak Street (Figure 5.1-1). The proposed project would be located along the south edge of the road (i.e., the right side of the photo).	No equipment cabinets would be located in this area. Up to one fiberglass line marker could potentially be visible along the road edge in this view; however, it would likely be indistinguishable when viewed in the context of other physical features along the edge of the road.	Less than significant. Given the minimal visual change, which is limited to short-term changes due to ground disturbance and the potential presence of up to one line marker, the proposed project would result in minimal contrast and would not substantially affect views.
Key VP 3 (Figure 5.1-3b). Representative of the view looking north from a location near the intersection of Scout Street and Olive Street (Figure 5.1-1).	The telecom line would be buried and a new above-ground equipment cabinet would be located along the line in this area. Once the disturbed corridor for the buried line along the road edge is restored and vegetation is	Less than significant. The new equipment cabinet would be similar in size, form, and color to the existing metal cluster mailboxes, and there are other structures of varying forms, lines, and colors in the

Table 5.1-3 Impacts to Key View Points

Viewpoints	Description of Impacts from Proposed Project	Impact
The proposed project would be located along the south and west edges of the road (i.e., the left side of the photo).	established, it is unlikely the proposed project features would be noticeable to viewers. The new equipment cabinet would be aboveground and noticeable to viewers.	area. The proposed project would result in minimal contrast and would not substantially affect views.
Key VP 4 (Figure 5.1-3b) Representative of the view looking north from the intersection of Happy Valley Road and Shawn Drive (Figure 5.1-1). The proposed project would be located along the west edge of the road (i.e., the left side of the photo).	No equipment cabinets would be located in this view. Up to two fiberglass line markers could potentially be visible along the road edge in this view; however, because of their small size, they would appear similar to or less obtrusive than other roadside structures visible in this view, including the signposts, power poles, and fence. Once the disturbed corridor along the road edge is restored and vegetation is established, it is unlikely the proposed project features would be noticeable to viewers.	Less than significant. Given the minimal visual change, which is limited to short-term changes due to ground disturbance and the potential presence of up to two line markers, the proposed project would not substantially affect views.

As described in Table 5.1-3, it is unlikely that the restored areas for the buried telecom line along the road edges would result in any noticeable long-term evidence of change to the landscape. Aboveground equipment cabinets and line markers would be viewed in the context of other road-side signs, small utility structures, metal cluster mailboxes, and other structures of similar size, form, or color and, consequently, would not substantially reduce the vividness, intactness, or unity of views. For these reasons, the proposed project would not degrade the existing visual character or quality of the site and its surroundings. The impact would be less than significant and would not require mitigation measures. Additionally, the applicant would implement **APM BIO-5** and **APM BIO-6**, which includes avoiding tree and orchard removal and minimizing vegetation trimming, which would help maintain vividness, intactness, and unity of views of sensitive visual resources.

Significance: Less than significant.

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

Construction would occur only during daylight hours and would not require nighttime lighting. Therefore, there would be no effect on nighttime views in the area during construction. Construction vehicles and equipment could produce some glare from reflective and light-colored metal and glass parts during daytime hours; however, the amount and type of glare produced would be similar to that of other vehicles and equipment that are regularly present in the proposed project area. Impacts would be temporary and dependent upon the location of the sun and the orientation of the construction equipment, which would frequently change location within the construction area. Because glare would be intermittent and temporary, glare during construction would not significantly impact daytime views in the area.

The proposed project would not include any permanent lighting for operation and maintenance. Aboveground metal equipment cabinets would be warm gray in color. Although lighter in color than surrounding vegetation, they would not produce more glare than other structures commonly occurring in the area, including roadside signs, small utility structures, metal cluster mailboxes, and other structures.

1 Therefore, glare during construction, operation, and maintenance would not significantly impact views in
2 the area. The impact would be less than significant and no mitigation is required.

3
4 **Significance: Less than significant.**

5
6 **Mitigation Measures**

7 Because all impacts on aesthetic resource area for the proposed project would be less than significant or
8 no impact, no mitigation measures are required.
9

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5.2 Agriculture and Forest Resources

5.2.1 Environmental Setting

Agricultural uses are the predominant land use in the vicinity of the proposed project area, with low density residential and commercial uses dispersed throughout. Public land managed by the Bureau of Land Management (BLM) lies near the western portion of the proposed project area. Agricultural land uses contribute to the rural character of Shasta County and are considered a major component of the County's resource base (Shasta County 2004). Within the proposed project area, agricultural uses are primarily small scale and include orchards, pastures, and grazing lands. The proposed project would traverse adjacent to agricultural areas that are classified as Grazing Land, Farmland of Local Importance, Prime Farmland, Farmland of Statewide Importance, and Unique Farmland (CDC 2016). There is no zoned forest land in the proposed project area.

5.2.2 Regulatory Setting

Federal

Farmland Protection Policy Act of 1981. Enacted by Congress to protect farmland, this act (Public Law 97-98, Title XV, Subtitle I § 1539-1549) is intended to minimize unnecessary and irreversible conversion of farmland to nonagricultural uses by federal programs. Projects are subject to the Farmland Protection Policy Act if they may irreversibly convert farmland to nonagricultural use. The Farmland Protection Policy Act is not applicable to the proposed project since the proposed project would not result in the conversion of farmland to nonagricultural uses.

State

California Land Conservation Act of 1965. Commonly referred to as the "Williamson Act," this state policy (California Code, Chapter 7 § 51200-51297.4) enables local governments to enter into ongoing, minimum 10-year contracts with private landowners to restrict specific parcels of land to agricultural or compatible uses. Shasta County regulations require a minimum of 100 acres for Williamson Act contracts (Shasta County 2004). The Williamson Act is not applicable to the proposed project since the proposed project would not convert agricultural or open space lands to urban uses; furthermore, the proposed project area is not located within areas eligible for Williamson Act contracts.

Farmland Mapping and Monitoring Program. Established in 1982 and administered by the California Department of Conservation, the Farmland Mapping and Monitoring Program (FMMP) provides consistent and impartial data to decision makers for use in assessing present status, reviewing trends, and planning for the future of California's agricultural resources. The data provided by the FMMP are intended to inform the land use planning process by providing impartial analysis of agricultural land use and change in California. The following Important Farmland Map Categories are applicable to the proposed project area:

- **Prime Farmland:** Land with the best combination of physical and chemical features able to sustain long-term agricultural production, including the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
- **Farmland of Statewide Importance:** Land similar to Prime Farmland, but with minor shortcomings (e.g., greater slopes, less ability to store soil moisture, etc.). Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.

- Unique Farmland: Land 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 four years prior to the mapping date. (CDC 2004)

Local

Shasta County General Plan. The Agricultural Lands element of the Shasta County General Plan describes contributions of agricultural lands to the County; characteristics of farms; farm operators, agricultural areas, and commodities; potential conflicts between agricultural and rural residential uses; and a framework for minimum agricultural parcel sizes. The General Plan outlines the following objectives, which are applicable to the proposed project because there is land zoned light agricultural in the proposed project area.

- *AG-1 Preservation of agricultural lands at a size capable of supporting full-time agricultural operations to allow the continuation of such uses and to provide opportunities for the future expansion or establishment of such uses.*
- *AG-2 Preservation of agricultural lands at a size capable of supporting part-time or second income, but not full-time, agricultural operations to allow the continuation of such uses and to provide opportunities for the future expansion or establishment of such uses.*
- *AG-3 Recognition by Shasta County residents that the preservation lands for agricultural uses, both large and small scale, is in the public interest because it preserves local and regional food supplies and is an important contributing industry to the Shasta County economy.*
- *AG-4 Recognition by Shasta County residents that preservation of agricultural lands, both large- and small-scale, provides privately maintained open-space, facilitates a rural lifestyle, and requires Countywide understanding of the problems facing ranchers and farmers.*
- *AG-5 Protection of agricultural lands from development pressures or uses which will adversely impact or hinder existing or future agricultural operations.*
- *AG-6 Protection of water resources and supply systems vital for the continuation of agriculture.* (Shasta County 2004)

5.2.3 Environmental Impacts and Mitigation Measures

The impact analysis below identifies and describes the proposed project's potential impacts on agriculture and forest resources within the proposed project area. Potential impacts were evaluated according to significance criterion based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a more detailed evaluation. There is no zoned forested land in the proposed project area. There would be no impact under criteria (c) or (d), and a detailed discussion is therefore not provided.

Applicant Proposed Measures

The applicant has not incorporated APMs into the proposed project to specifically minimize or avoid impacts on agriculture and forest resources; however, APMs proposed from other resource sections, as further described below to further lessen potential impacts. A list of all project APMs is included in Table 4-2 in Chapter 4.

Significance Criteria

Table 5.2-1 describes the significance criteria from Appendix G of the CEQA Guidelines' agriculture and forest resources section, which the California Public Utilities Commission used to evaluate the environmental impacts of the proposed project.

Table 5.2-1 Agriculture and Forest Resources Checklist

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

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

The proposed project area would be located immediately adjacent to Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. As described in Chapter 4, Project Description, proposed project components would be installed within the Shasta County ROW and within existing private roadway easements via directional boring and plowing and trenching. No new staging areas would be required; staging would occur on existing telecommunications central office properties or at contractors' off-site yards. Construction would have a small disturbance area associated with each DLC site, but would remain within the existing ROW. The anticipated surface restoration that would restore disturbed areas along roadways to their former uses after installation is complete.

Ongoing operation and maintenance associated with the new telecommunications network would be minimal and consist of occasional visits by TDS technicians to the DLC sites. The maintenance performed during these site visits would not alter the proposed project area. Since the areas disturbed during construction are within the ROW and would be restored to their former uses after installation is complete. As a result, the proposed project would not convert agricultural lands to non-agricultural use and the impact would be less than significant. Implementation of **APM BIO-5**, would further avoid any

potential impact because it would require that the applicant avoid any orchards adjacent to the project alignment during construction.

Significance: Less than significant.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

The proposed project area is not within areas eligible for Williamson Act contracts. Regardless, there would be no conflicts with existing zoning regulations for agricultural use or a Williamson Act contract because installations associated with the proposed project would occur within existing road ROWs and would require encroachment permits from the County. For these reasons, project construction would not conflict with existing zoning for agricultural use, or a Williamson Act contract.

Operation and maintenance associated with the new telecommunications network would be minimal and would consist of occasional visits by TDS technicians to the DLC sites. The proposed project would be located within existing County and private road ROWs. Areas disturbed during construction would be restored to their former uses and therefore would not conflict with the Shasta County General Plan (see Section 5.10). As a result, there would be no impact. Implementation of **APM BIO-5**, would further avoid any potential impact because it would require that the applicant avoid any orchards adjacent to the project alignment during construction.

Significance: No impact.

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

The proposed project would not involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland to non-agricultural use. In addition, there is no zoned forested land in the proposed project area. Therefore, the proposed project would not result in any impacts for conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use during construction nor operation and maintenance.

Significance: No impact.

Mitigation Measures

Because all impacts on agriculture and forest resources for the proposed project would be less than significant or nonexistent, no mitigation measures are required.

5.3 Air Quality

5.3.1 Environmental Setting

Shasta County is part of the Sacramento Valley Air Basin (SVAB). The SVAB also includes Tehama, Glenn, Butte, Colusa, Sutter, Yuba, and Sacramento Counties, as well as the Placer County Air Pollution Control District portion of Placer County, and the Yolo-Solano Air Quality Management District portion of Solano County.

Climate and Meteorology

The overall climate in the SVAB is dry and warm, with the majority of precipitation occurring in the winter months. The Western Regional Climate Center recorded seasonal climatic data from 1986 to 2016 at the Redding Municipal Airport, located to the east of the proposed project area. The average annual maximum temperature within the proposed project area is 75.5 degrees Fahrenheit (°F), with July having the hottest average maximum temperature, at 98.7°F. The average annual minimum temperature within the proposed project area is 49.4°F, with December having the coldest average temperature, at 36.1°F. The region receives approximately half of its annual precipitation (33.68 inches) during the months of December, January, and February (WRCC 2016).

Ambient Air Quality

The U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for several pollutants based on their adverse health effects. The EPA has set National Ambient Air Quality Standards (NAAQS) for ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), particulate matter less than 10 microns (PM₁₀), fine particulate matter less than 2.5 microns (PM_{2.5}), sulfur dioxide (SO₂), and lead (Pb). These pollutants are commonly referred to as “criteria pollutants.” Primary standards were set to protect public health; secondary standards were set to protect public welfare against visibility impairment, damage to animals, crops, vegetation, and buildings. In addition, CARB has established California Ambient Air Quality Standards (CAAQS) for these pollutants, as well as for sulfate (SO₄), visibility reducing particles, hydrogen sulfide (H₂S), and vinylchloride. California standards are generally stricter than national standards.

The status of a given air basin with regard to NAAQS or CAAQS requirements is defined in terms of level of “attainment.” Air basins or areas within an air basin not meeting these standards are classified as being in “nonattainment.” Table 5.3-1 summarizes the federal and state attainment status for the SVAB, as of 2016, based on the NAAQS and CAAQS, respectively.

Toxic Air Contaminants

Air pollutants originating from numerous sources that may pose a substantial health risk in California are called toxic air contaminants (TACs) under California law (Health and Safety Code §§ 39650 et seq.). The substances that have been determined by CARB to be toxic air contaminants are identified in the California Code of Regulations, Title 17, § 93000. TACs include asbestos, chemical compounds, and certain metals. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to brain and nervous system, and respiratory disorders. Since no safe levels of TACs can be determined, there are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with exposure to a given contaminant. The requirements of the Air Toxic “Hot Spots” Information and Assessment Act apply to facilities that use, produce, or emit toxic chemicals.

Sensitive Receptors

Sensitive receptors are areas occupied by individuals or other organisms that are more susceptible to the adverse effects of exposure to air pollutants. The most common sensitive receptors are residences, apartments, hospitals, schools, daycare facilities, elderly housing facilities, and convalescent facilities. These receptors may have an increased sensitivity to contaminants because of the age and health of their occupants or because of their proximity and increased exposure to the contamination source. The Air Quality and Land Use Handbook indicates several source categories that have the potential to cause long-term public health risk impacts due to proximity sensitivity and duration of exposure at a receptor (CARB 2005). The proposed project would not entail a use or activity considered to cause potential health risks listed by the 2005 handbook. However, the handbook recommends that sensitive receptors should be located farther than 1,000 feet from a distribution center where trucks, trailers, shipping containers, and other equipment with diesel engines produce diesel particulate matter emissions. Since emissions from the proposed project would involve exhaust gases and fugitive particulate matter generated by mobile sources during construction, the sensitive receptors located within 1,000 feet of the proposed project were considered in the impact assessment.

Existing uses within proximity to the proposed project area primarily include agriculture (i.e., row crops and orchards) and rural residential. Sensitive receptors within 1,000 feet of the proposed project alignment include single-family residences and three schools. The nearest residence is located 48.2 feet and the nearest school 261.6 feet from the proposed underground fiber optic telecommunications cable (telecom line) route, as described in Section 5.12, "Noise." There are no hospitals, or other sensitive land uses within 1,000 feet of the proposed project area.

5.3.2 Regulatory Setting

Federal

Clean Air Act. The Clean Air Act (CAA; United States Code Title 42, Chapter 85) is the law that defines the EPA's responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer. The last major change in the law, the CAA Amendments of 1990, was enacted by Congress in 1990.

Title I of the CAA requires establishment of NAAQS, air quality designations, and plan requirements for nonattainment areas. Table 5.3-1 summarizes the federal and state attainment status for Shasta County as of 2016, as well as current NAAQS and CAAQS. States are required to submit a state implementation plan (SIP) to the EPA for areas in nonattainment for NAAQS; the SVAB is in attainment for pollutants under the CAA; therefore, no SIP applies to the proposed project.

Title II of the CAA contains a number of provisions regarding mobile sources, including requirements for reformulated gasoline, new tailpipe emission standards for cars and trucks, standards for heavy-duty vehicles, and a program for cleaner fleet vehicles.

State

California Clean Air Act. The California Clean Air Act of 1988 outlines a statewide air pollution control program in California. CARB is the primary administrator of the California Clean Air Act, while local air quality districts administer air rules and regulations at the regional level. CARB is responsible for establishing the CAAQS, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and preparing the SIP. The CAAQS apply to the same criteria pollutants as the federal CAA and also include SO₄, visibility reducing particulates, H₂S, and vinyl chloride. They are

generally more stringent than the federal standards. The CAAQS are presented in Table 5.3-1. CARB is also responsible for regulations pertaining to TACs. The Air Toxics “Hot Spots” Information and Assessment Act was enacted as a means to establish a formal air toxics emission inventory risk quantification program. The Air Toxics Hot Spots Information and Assessment Act (Assembly Bill 2588, enacted 1987), as amended, establishes reporting requirements related to the type and quantity certain emissions from stationary sources.

Table 5.3-1 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^{(1),(2)}	National Standards ^{(3),(2)}		Attainment Status	
			Primary ⁽⁴⁾	Secondary ⁽⁵⁾	State	Federal
Ozone (O ₃)	1-Hour	0.09 ppm (180 µg/m ³)	--- ⁽⁶⁾	---	N	U/A
	8-Hour	0.07 ppm (137 µg/m ³)	0.07 ppm (137 µg/m ³)	0.07 ppm (137 µg/m ³)		
Carbon monoxide (CO)	1-Hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	---	U	U/A
	8-Hour	9.0 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	---		
Nitrogen dioxide (NO ₂)	1-Hour	0.18 ppm (339 µg/m ³)	0.1 ppm (188 µg/m ³)	---	A	U/A
	1-Year	0.03 ppm (57 µg/m ³)	0.053 ppm (100 µg/m ³)	0.053 ppm (100 µg/m ³)		
Sulfur dioxide (SO ₂) ⁽⁷⁾	1-Hour	0.25 ppm (655 µg/m ³)	0.075 ppm (196 µg/m ³)	---	A	U
	3-Hour	---	---	0.5 ppm (1,300 µg/m ³)		
	24-Hour	0.04 ppm (105 µg/m ³)	---	---		
Respirable Particulate Matter (PM ₁₀) ⁽⁸⁾	24-Hour	50 µg/m ³	150 µg/m ³	150 µg/m ³	N	U
	1-Year	20 µg/m ³	---	---		
Fine Particulate Matter (PM _{2.5}) ⁽⁸⁾	24-Hour	---	35 µg/m ³	35 µg/m ³	A	U/A
	1-Year	12 µg/m ³	12.0 µg/m ³	15 µg/m ³		
Lead (Pb)	30-Day	1.5 µg/m ³	---	---	A	U/A
	Rolling 3-Month	---	0.15 µg/m ³	0.15 µg/m ³		
Hydrogen sulfide (H ₂ S)	1-Hour	0.03 ppm (42 µg/m ³)	No Federal Standards		U	n/a
Sulfates (SO ₄)	24-Hour	25 µg/m ³			A	n/a
Visibility reducing particles	8-Hour	See Note 9			U	n/a
Vinyl chloride ⁽¹⁰⁾	24-Hour	0.01 ppm (26 µg/m ³)			U ⁽¹¹⁾	n/a

Source: CARB 2017a, 2017b, 2016

Notes:

⁽¹⁾ CAAQS for ozone, CO (except 8-hour Lake Tahoe), SO₂ (1- and 24-hour), NO₂, PM₁₀, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded.

⁽²⁾ Concentration expressed first in units in which it was promulgated. Parts per million in this table refers to ppm by volume or micromoles of pollutant per mole of gas.

Table 5.3-1 National and California Ambient Air Quality Standards

- (3) NAAQS (other than ozone, particulate matter, and standards based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth-highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is not to be exceeded more than once per year. The 24-hour standard is attained when the 3-year average of the weighted annual mean at each monitor within an area does not exceed 150 µg/m³. For PM_{2.5}, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, do not exceed 35 µg/m³. The annual standard is attained when the 3-year average of the weighted annual mean at single or multiple community-oriented monitors does not exceed 12 µg/m³.
- (4) National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
- (5) National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse impacts of a pollutant.
- (6) The federal 1-hour ozone standard was revoked for most areas of the United States, including all of California on June 15, 2005.
- (7) Final rule signed June 2, 2010. The 1971 annual and 24-hour SO₂ standards were revoked in that same rulemaking.
- (8) On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12 µg/m³. Existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
- (9) In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.
- (10) CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health impacts determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- (11) Attainment status was not identified.

Key:

A	attainment
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CO	carbon monoxide
mg/m ³	milligrams per cubic meter
N	nonattainment
n/a	not applicable
NAAQS	National Ambient Air Quality Standards
NO ₂	nitrogen dioxide
PM ₁₀	particulate matter less than 10 microns in diameter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
ppm	parts per million
SO ₂	sulfur dioxide
U	unclassified
µg/m ³	micrograms per cubic meter

Local

The Shasta County AQMD has adopted air quality thresholds for ozone precursors (NO₂, reactive organic gases [ROG]) and for PM₁₀ (Table 5.3-2). These thresholds are published in the Shasta County General Plan and are recommended to be applied during the Shasta County Planning Division's CEQA review process, since they address pollutants of concern identified in the AQAP. Thresholds for other criteria pollutants do not appear in the General Plan, but are included in Shasta County AQMD Rule 2:1, New Source Review. Standard mitigation measures and best available mitigation measures, as identified by Shasta County AQMD would be required for any project exceeding level "A" thresholds. Projects exceeding level "B" thresholds would be required to apply feasible mitigation measures in addition to standard measures.

Table 5.3-2 Shasta County AQMD Air Quality Emission Thresholds

Pollutant	"A" Threshold (lbs/day)	"B" Threshold (lbs/day)
Nitrogen dioxide (NO ₂)	25	137
Reactive organic gas (ROG)	25	137
PM ₁₀	80	137
Sulfur dioxide (SO ₂)	80	None
Carbon monoxide (CO)	500	None

Source: Shasta County 2004; Shasta County AQMD 1997

Note: Thresholds for CO and SO₂ do not appear in Table AQ-4 of the Shasta County General Plan, but are included in SCAQMD policy (Rule 2:1).

Key:

PM₁₀ particulate matter less than 10 microns in diameter

lbs pounds

SCAQMD Shasta County Air Quality Management District

All construction activities must be in compliance with Shasta County AQMD Rule 3:16 in an effort to attain state and national PM₁₀ ambient air quality standards. Projects are required to utilize one or more reasonably available control measures to minimize fugitive dust emissions. Control measures include the following:

- Wind breaks/screens
- Dust suppressants
- Haul truck materials covered or watered
- Haul truck wheel washers
- Street sweeping

5.3.3 Environmental Impacts and Mitigation Measures

The impact analysis below identifies and describes the proposed project's potential impacts on the air basin. Potential impacts were evaluated according to significance criteria based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. The standards used to evaluate the significance of impacts are often qualitative rather than quantitative because appropriate quantitative standards are either not available for many types of impacts, or are not applicable for some types of projects. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a more detailed evaluation. Air quality impacts anticipated to occur from operation of the proposed project would be negligible, and emissions from this phase would result from occasional truck trips for maintenance, connecting or disconnecting customers, and inspecting or potentially repairing equipment. Emissions from these vehicle trips would represent an insignificant portion of daily mobile source emissions in the air basin.

Applicant Proposed Measures

The applicant would implement the following APMs to minimize or avoid impacts on air quality. Mitigation Measure (MM) GEN-1 requires implementation of all APMs, including those identified to minimize impacts on air quality resources. A list of all project APMs is included in Table 4-2 in Chapter 4.

APM AQ-1: TDS will require all construction contractors to implement the following measures for fugitive Particulate Matter (PM) less than 10 microns in diameter (PM₁₀) control during construction:

- All disturbed areas, including bulk material storage that is not being actively utilized, shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover.
- All on- and off-site unpaved roads will be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by non-toxic chemical stabilizers, dust suppressants, and/or watering.
- All track-out and carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 15 linear m (50 linear feet) or more onto a paved road within an urban area.
- Bulk material shall be stabilized prior to movement or at points of transfer with the application of sufficient water, the application of chemical stabilizers, or by sheltering or enclosing the operation and transfer line.
- Vehicle speed for all construction vehicles shall not exceed 24.1 km (15.0 miles) per hour on any unpaved surface at the construction site.

Significance Criteria

Table 5.3-3 describes the significance criteria from Appendix G of the CEQA Guidelines' air quality section, which the California Public Utilities Commission used to evaluate the environmental impacts of the proposed project.

Table 5.3-3 Air Quality Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

As discussed in Section 5.3.2, the Shasta County AQMD has set significance thresholds for criteria pollutants NO₂, ROG, and PM₁₀ in Shasta County to assess whether a project complies with the Shasta County AQAP (Shasta County 2004). Projects that have implemented mitigation measures as determined by the Shasta County Planning Division can proceed with an environmental determination of a Mitigated Negative Declaration if emissions do not exceed “B” thresholds of significance. Thus, projects with emissions below the “B” threshold of significance for criteria pollutants would not conflict or obstruct implementation of the Shasta County AQMD’s air quality plan. Therefore, the “B” thresholds of significance for air quality were used to assess whether the proposed project would conflict with the Shasta County AQMD’s air quality plan.

Emissions of criteria pollutants would result from vehicle and equipment exhaust, as well as fugitive dust from travel, earthmoving, and site grading during construction of the proposed project. Plowed and trenched installation for the underground telecom line would involve ground-disturbing activities that would generate fugitive dust. Construction emissions estimates, along with the thresholds of significance for criteria pollutants emitted during construction, are provided in Table 5.3-4. Detailed calculations are provided in Appendix C.

The construction emissions reported in Table 5.3-4 are all below the “B” thresholds of significance. Although the proposed project’s anticipated construction emissions are below the designated thresholds, the applicant would implement **APM AQ-1** to further minimize generation of fugitive dust and is consistent with Shasta County AQMD Rule 3:16. Further, the proposed project would be required to implement standard mitigation measures as determined by the Shasta County Planning Division. Standard mitigation measures typically required by the county include watering and limiting vehicle speeds on unpaved roads, sweeping of adjacent paved roads, limiting excavation and clearing activities during high winds, and limiting construction activities that require traffic control. The proposed project would not conflict with or obstruct implementation of the applicable air quality plan. The impact of the proposed project on air quality would be less than significant.

Table 5.3-4 Estimate Daily Construction Emissions

Construction Phase	Criteria Pollutant Emissions (lbs/day)							
	ROG	NO ₂	CO	SO ₂	PM ₁₀		PM _{2.5}	
					Fugitive	Exhaust	Fugitive	Exhaust
Plowed/trenched conduit installation	2.32	19.95	11.51	0.02	0.11	1.46	0.03	1.35
Bored conduit installation	3.02	26.40	21.65	0.04	0.15	1.65	0.04	1.60
Node installation	0.43	4.04	3.33	0.01	0.09	0.26	0.03	0.24
Maximum daily emissions	3.02	26.40	21.65	0.03	1.80		1.64	
SCAQMD “A” Thresholds	25	25	500	80	80		80	
SCAQMD “B” Thresholds	137	137	None	None	137		None	
Exceeds SCAQMD “A” Threshold?	No	Yes	N/A	N/A	No		N/A	

Table 5.3-4 Estimate Daily Construction Emissions

Construction Phase	Criteria Pollutant Emissions (lbs/day)							
	ROG	NO ₂	CO	SO ₂	PM ₁₀		PM _{2.5}	
					Fugitive	Exhaust	Fugitive	Exhaust
Exceeds SCAQMD "B" Threshold?	No	No	N/A	N/A	No		N/A	

Source: Shasta County 2004

Key:

CO carbon monoxide

lbs pounds

N/A Not applicable

NO₂ nitrogen dioxide

PM₁₀ particulate matter less than 10 microns in diameter

PM_{2.5} particulate matter less than 2.5 microns in diameter

ROG reactive organic gases

SCAQMD Shasta County Air Quality Management District

SO₂ sulfur dioxide

Significance: Less than significant.

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

As identified in Table 5.3-1, the proposed project area is in nonattainment of CAAQS for O₃ and PM₁₀, but is in attainment for all NAAQS criteria pollutants. As discussed for significance criteria (a), impacts would be less than significant for ROG and NO₂ (ozone precursors), and for PM₁₀. Additionally, the proposed project would be required to implement standard mitigation measures as determined by the Shasta County Planning Division. Construction of the proposed project would therefore not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in nonattainment.

Significance: Less than significant.

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

Sensitive receptors within 1,000 feet in either direction of the proposed underground telecom line route are limited to single-family residences and three elementary schools. During construction of the proposed project, sensitive receptors near the construction sites would be exposed to particulate emissions from diesel-fueled engines. Diesel exhaust is considered carcinogenic, and long-term exposure could result in adverse health impacts. Construction would be temporary and limited to daylight hours during the 60-120 day construction period. Construction vehicles and equipment would not remain in any one location for a prolonged period of time and would be relocated as sections of the telecom line are installed. A single plow and trenching crew typically installs 1,000 feet of conduit per day. Digital Loop Carrier Site installation would last approximately five days per site. Implementation of **APM AQ-1** would further minimize generation of fugitive dust near sensitive receptors. Therefore, the proposed project would not expose sensitive receptors to substantial pollutant concentrations during construction. Impacts would be less than significant.

Significance: Less than significant.

1 *d. Would the project result in other emissions (such as those leading to odors adversely affecting a*
2 *substantial number of people?*
3

4 During construction, potential sources of odors would be represented by diesel exhaust and hydrocarbon
5 emissions from construction vehicles and equipment use, as well as roadway resurfacing. As described
6 under criterion (c), construction would be temporary, and construction equipment and vehicles would
7 move as sections of the telecom line are installed. The area is rural with low density residential and
8 agriculture; some sections along the proposed route are sparsely populated. Therefore, emissions from
9 construction activities that lead to odors are not expected to affect a substantial number of people and
10 would not result in a significant impact. Impacts would be less than significant.
11

12 **Significance: Less than significant.**
13

14 **Mitigation Measures**

15 Because all air quality impacts for the proposed project would be less than significant, no mitigation
16 measures are required. However, as described in Chapter 4, Project Description, Mitigation Measure
17 (MM) GEN-1 requires implementation of all APMs.
18

19 **MM GEN-1: Implementation of All APMs.** The applicant shall implement all APMs as stated in this
20 environmental document, except in cases where they are superseded by mitigation measures, and the
21 physical and operational components of the project will not exceed the limits of Shasta County roads,
22 roadways, and right-of-ways. The APMs shall be incorporated into the Mitigation, Monitoring, and
23 Reporting Plan.
24

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5.4 Biological Resources

5.4.1 Environmental Setting

The proposed project would be located approximately 11 miles south of Redding, California, in unincorporated portions of southwestern Shasta County, including the communities of Happy Valley, Olinda, and Igo. The majority of the land located adjacent to the proposed project area is used for agriculture, with limited residential and commercial properties dispersed throughout. Olive orchards are located adjacent in the central portion of the proposed project area along Scout and Olive Streets, and open woodland occurs in the vicinity of Happy Valley Road at Spring Creek and along the western portion of Cloverdale Road to the western end of the proposed project area, in the community of Igo. The predominant vegetation community in the proposed project area is Blue Oak-Digger Pine Woodland, and the landscape is characterized by multiple wetland and drainage features. Elevations in the proposed project area range from 650 to 1100 feet above mean sea level.

Methodology

To determine potential impacts of the proposed project on biological resources, the CPUC conducted a literature review to identify biological resources in the proposed project area and reviewed survey results conducted by and provided by the applicant (Appendix D). Appendix D includes Biological Resources Evaluation (Tierra ROW 2015a) and Waterway Delineation and Assessment Report (Tierra ROW 2015b). The literature review involved searching for occurrence records of special status plant and animal species, designated critical habitat for listed species, and sensitive natural communities, as contained in the following databases:

- California Department of Fish and Wildlife (CDFW) Biogeographic Data Branch, Special Animals List (CDFW 2018);
- California Native Plant Society (CNPS) 2018 Online Inventory of Rare and Endangered Plants of California (CNPS 2018);
- CDFW California Natural Diversity Data Base (CNDDDB) search of the following U.S. Geological Survey (USGS) 7.5-minute series USGS Enterprise, Redding, Igo, Ono, Olinda, Cottonwood, Hooker, Mitchell Gulch, and Rosewood quadrangle maps (CNDDDB 2016);
- U.S. Department of Agriculture Natural Resources Conservation Service, Web Soil Survey (NRCS 2017);
- U.S. Fish and Wildlife Service (USFWS) Environmental Conservation Online System Active Critical Habitat Report (USFWS 2016);
- USFWS Information for Planning and Conservation (IPaC) search for Shasta County, generated using the online IPaC database and a general outline of the proposed project area;
- USFWS National Wetlands Inventory (USFWS 2018).
- USGS National Hydrography Dataset, National Map Viewer (USGS NHD 2017); and
- Cornell Lab of Ornithology's eBird database, an online database of bird distribution and abundance (eBird 2017).

Field Surveys

The applicant conducted reconnaissance-level field surveys on February 10–14, 2015. Surveys assessed project corridors for the presence of special status species and associated suitable habitat, as well as general wildlife species, migratory birds, plant and noxious weed species, sensitive natural communities, and the presence of waterways. The “study area” consisted of a 50-foot buffer around the proposed project corridor centerline. The applicant conducted a follow-up survey for big-scale balsamroot (*Balsamorhiza macrolepis*) on May 20, 2015, during the species’ blooming season.

Common and Sensitive Natural Communities

The proposed project area is located in the “South Central Region” of Shasta County, as described in the Shasta County General Plan (Shasta County 2004). The most ecologically significant community in this region is the Riparian Woodland association, found along the Sacramento River and its tributaries. The dominant terrestrial habitat within the study area is Blue Oak-Digger Pine Woodland (Sawyer et al. 2009), with a small amount of Northern Yellow Pine Forest located in the northwestern portion of the proposed project area in the community of Igo. Field surveys did not identify any sensitive natural communities, and the nearest CNDDDB sensitive natural communities—the Great Valley–Valley Oak Riparian Forest and Great Valley Willow Scrub—occur along Clear Creek, 3 to 5 miles northeast of the proposed project area (Tierra ROW 2015a, Appendix D). While no sensitive natural communities occur within the proposed project area, riparian vegetation does occur along the margins of the larger aquatic features, including Spring Creek. Sparse riparian vegetation, consisting of white alder (*Alnus rhombifolia*) and willows (*Salix* spp.), is located near where Spring Creek and Happy Valley Road intersect.

Invasive Species

Surveys identified 24 invasive plant species appearing on the California Department of Food and Agriculture’s Noxious Weed Species List and/or the California Invasive Plant Council’s (Cal-IPC’s) Invasive Plant Inventory list. Invasive plants are prevalent throughout the proposed project area, though most species observed are classified as *Limited* and *Moderate* in their invasiveness by the Cal-IPC, meaning their statewide ecological impacts range from very minor to substantial and apparent, but generally not severe (Cal-IPC 2006). Three species with a *High* invasiveness rating, meaning they have severe ecological impacts on physical processes, plant communities, and vegetation structure, were observed during surveys: giant reed (*Arundo donax*), found in Spring Creek; yellow-star thistle (*Centaurea solstitialis*), found throughout the survey area; and Spanish broom (*Spartium junceum*), found in Central Laverne, along Happy Valley Road, and north of Palm and Olive Streets (Tierra ROW 2015a, Appendix D).

Jurisdictional Waters

Field surveys identified 29 drainages and eight wetlands in the proposed project area (Tierra ROW 2016b, Appendix D). All wetlands, with the exception of Wetland A (see Figure 5.9-1), are seasonal, since they were inundated during February surveys following two weeks of heavy rainfall, and dry during follow-up surveys in May. Common facultative wetland (FACW)¹ and obligate wetland (OBL)² plant species found within the wetlands include common rush (*Juncus effusus*), common cattail (*Typha latifolia*), sharp-fruited rush (*Juncus acuminatus*), umbrella sedge (*Cyperus eragrostis*), annual rabbitsfoot grass (*Polypogon monspeliensis*), creeping winter primrose (*Ludwigia peploides*), American speedwell

¹ Facultative wetland (FACW) vegetation includes species that usually occur in wetlands (67–99% occurrence rate) but are occasionally found in non-wetlands (USACE 2012).

² Obligate wetland (OBL) vegetation includes species that occur almost always (99% occurrence rate) under natural conditions in wetlands (USACE 2012).

(*Veronica americana*), and duckweed (*Lemna* spp.) (Tierra ROW 2015b, Appendix D).

Although no formal wetland and waterway delineations were completed for the proposed project, all wetlands observed and identified in this report are potentially state- and federally jurisdictional; each possesses all three U.S. Army Corps of Engineers (USACE) wetland indicators (wetland hydrology, wetland vegetation, and hydric soils). All non-wetland waterway crossings, with the exception of the Happy Valley Ditch and Happy Valley Canal, are considered to be jurisdictional under both the state and federal Clean Water Acts (CWA). The Happy Valley Ditch and Happy Valley Canal are likely only jurisdictional under the California CWA, and neither would be impacted by construction activities. As no lake or streambed alteration is planned for the proposed project, a permit from the CDFW would not be required.

Special Status Species

Special status species include plants and animals that are either formally listed under federal or state endangered species law, or not formally listed but that, in the judgement of the CPUC's qualified professionals, meet the definitions of endangered, rare, or threatened under CEQA Guidelines Section 15380, such as species considered to be rare by resource agencies, professional organizations (e.g., CNPS), local ordinances, and the scientific community. In this document, "special status species" include the following: species that are listed as "Endangered," "Threatened," "Candidate," or "Proposed" under the Federal Endangered Species Act (ESA); listed as "Endangered," "Threatened," or "Rare" under the California ESA; designated as "Watch List," "Fully Protected," or "Species of Special Concern" or protected under the California Native Plant Protection Act by the CDFW; USFWS "Birds of Conservation Concern"; or CNPS Rare Plant Ranks 1 and 2.

The potential for special status species to occur within the proposed project area was assessed using the data sources and survey approaches described above. The species that have potential to occur in the proposed project area are described in Table 5.4-1 as having low, moderate, or high potential to occur. The likelihood that each special status species would occur in the proposed project area was determined based on known occurrences and natural history parameters, including, but not limited to, the species' range, habitat, foraging needs, migration routes, and reproductive requirements according to the following categories:

- **High:** CNDDDB or other documentation of occurrence of the species within a 3-mile radius of the proposed project area. Suitable habitat for foraging and/or breeding is present within the proposed project area.
- **Moderate:** CNDDDB or other documentation of occurrence of the species between a 3- and 5-mile radius of the proposed project area. Suitable habitat for foraging and/or breeding is present within the proposed project area.
- **Low:** CNDDDB or other documentation within 10 miles of the proposed project area, but limited suitable habitat or poor quality habitat for foraging and/or breeding is present within the proposed project area; or, no CNDDDB or other records within 10 miles of the proposed project area, but known suitable habitat for foraging and/or breeding is present within the proposed project area.

Table 5.4-1 Special Status Species with the Potential to Occur within the Proposed Project Area

Common Name	Scientific	Description and Habitat	Status	Occurrence
Plants				
Big-scale balsamroot	<i>Balsamorhiza macrolepis</i>	Endemic to California. Occurs in dry, open habitat, mostly in mountainous areas. Mostly found in the western foothills of the Sierra Nevada.	1B.2	Low Potential. Not observed during focused surveys, no CNDDDB occurrences within 10 miles of the proposed project. According to CNPS, presumed to occur in Rosewood quad, south of the proposed project area.
Legenere	<i>Legenere limosa</i>	Occurs in vernal pools; elevation range of 1–2,600 feet. Annual herb, blooms April–June. Many historical occurrences extirpated.	1B.2	Low Potential. All CNDDDB occurrences are located to the east of Interstate 5, with the nearest occurrences ~7 miles northeast of the proposed project area.
Nuttall's ribbon-leaved pondweed	<i>Potamogeton epihydrus</i>	Occurs in marshes and swamps (assorted shallow freshwater); elevation range of 1,300–6,200 feet. Perennial herb, blooms July–August.	2B.2	Moderate Potential. CNDDDB occurrence in a pond, ~5.25 miles north of the proposed project area. Project is below typical elevation range, and only suitable habitat occurs in Wetland A.
Pink creamsacs	<i>Castilleja rubicundula</i> var. <i>rubicundula</i>	Occurs in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland; elevation range of 60–3,000 feet. Annual herb, blooms April–June.	1B.2	Moderate Potential. CNDDDB occurrence within the Olinda quad, ~2.5 miles southeast of the proposed project area. Suitable habitat occurs throughout proposed project area.
Red bluff dwarf rush	<i>Juncus leiospermus</i> var. <i>leiospermus</i>	Occurs in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools; elevation range 100–3,300 feet. Annual herb, blooms March–May.	1B.1	Moderate Potential. Several CNDDDB occurrences within 3 miles of the proposed project area. Nearest population observed, from 2002, approximately 0.30 miles north of the proposed project area, in a vernal pool.
Silky cryptantha	<i>Cryptantha crinita</i>	Occurs in cismontane woodland, lower montane coniferous forest, riparian scrub, riparian woodland, valley and foothill grassland, and gravelly streambeds; elevation range of 100–1,000 feet. Annual herb, blooms April–May.	1B.2	Moderate Potential. Two CNDDDB populations at Olinda Creek and Anderson Creek, found approximately 4.5 miles east of the proposed project area, in dry creek beds. Suitable habitat occurs in Spring Creek.
Slender Orcutt grass	<i>Orcuttia tenuis</i>	Occurs in vernal pools; elevation range of 15–5,800 feet. Annual herb, blooms May–October.	SE, FT, 1B.1	Low Potential. No individuals observed during surveys. All CNDDDB occurrences located to the east of Interstate 5; nearest occurrence ~6.5 miles northeast of the proposed project area.

Table 5.4-1 Special Status Species with the Potential to Occur within the Proposed Project Area

Common Name	Scientific	Description and Habitat	Status	Occurrence
Insects				
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	Currently, known to occur from southern Shasta County to Fresno County. Dependent on the elderberry plant, found along rivers and streams; requires shrubs with stems of at least one-inch or greater in diameter at ground level.	FT	Low Potential. No elderberry plants observed within the study area during surveys. CNDDDB occurrence from 2006, ~5.5 miles southeast of the proposed project area.
Crustaceans				
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	Conservancy fairy shrimp inhabit rather large, cool-water vernal pools with moderately turbid water. The pools generally last until June. However, the shrimp are gone long before then.	FE	Low Potential. No vernal pools or vernal pool invertebrates were observed during surveys. However, the seasonal emergent wetlands identified in the study area may provide marginally suitable habitat for these species. No CNDDDB occurrences within 10 miles of the proposed project area.
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	Occur in a wide variety of ephemeral wetland habitats, and can be found in pools with water temperatures ranging from 50 degrees Fahrenheit to 84 degrees Fahrenheit.	FE	Low Potential. No vernal pools or vernal pool invertebrates were observed during surveys. However, the seasonal emergent wetlands identified in the study area may provide marginally suitable habitat for these species. Several CNDDDB occurrences within 10 miles, with the closest occurrence ~6 miles northeast of the proposed project area.
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	Occurs in vernal pools in Oregon and California. Occasionally found in habitats other than vernal pools, such as artificial pools created by roadside ditches. Can be found in densities of approximately 750 shrimp per gallon of water. Each winter, during the rainy season, dry depressions fill up with water and the fairy shrimp hatch	FT	Low Potential. No vernal pools or vernal pool invertebrates were observed during surveys. However, the seasonal emergent wetlands identified in the study area may provide marginally suitable habitat for these species. CNDDDB occurrence from 2004 approximately 2.5 miles south of the proposed project area, in a vernal pool.
Fish				
Green Sturgeon	<i>Acipenser medirostris</i>	Anadromous species that spend adult lives in ocean and return to freshwater lakes, rivers, and streams to spawn. Spawn in deep pools in large turbulent freshwater river mainstems, ranging from clean sand to	FT	No Potential. There are no CNDDDB occurrences within 10 miles of the proposed project area, and there is no suitable habitat located within the proposed project area.

Table 5.4-1 Special Status Species with the Potential to Occur within the Proposed Project Area

Common Name	Scientific	Description and Habitat	Status	Occurrence
		bedrock substrates.		
Central Valley Steelhead (Central Valley Distinct Population Segment)	<i>Oncorhynchus mykiss</i>	Anadromous species that spend adult lives in ocean and return to freshwater lakes, rivers, and streams to spawn. In streams, low-velocity pools are important wintering habitat. Spawning habitat consists of gravel substrates, free of excessive silt.	FT, ST	No Potential. CNDDDB occurrences or USFWS-designated Critical Habitat within Clear Creek, ~0.5 mile north of the proposed project area; however, there is no suitable habitat located within the proposed project area.
Chinook Salmon	<i>Oncorhynchus tshawytscha</i>	Anadromous species that spend adult lives in ocean and return to freshwater lakes, rivers, and streams to spawn. Spawning sites typically have larger gravel and more water flow up through the gravel than sites used by other Pacific salmon; also prefer larger and deeper streams.	FT, ST	No Potential. No CNDDDB occurrences or USFWS-designated Critical Habitat in Clear Creek, ~.5 miles north of the proposed project area; however, there is no suitable habitat located within the proposed project area.
Amphibians				
California red-legged frog	<i>Rana draytonii</i>	Inhabits quiet pools of streams, marshes and occasionally ponds; prefers shorelines with extensive vegetation for cover. Feed on aquatic and terrestrial insects, crustaceans, worms, tadpoles, smaller frogs and small mammals.	FT	No potential. There are no CNDDDB occurrences, within 10 miles of the proposed project area, and the proposed project would be outside of the current range of the species.
Western spadefoot toad	<i>Spea hammondi</i>	Occurs in valley and foothill grasslands and river floodplains, in proximity to aquatic resources, or temporary pools, which are required for breeding. Most of the year is spent in burrows; requires loose sandy or gravelly soils for burrowing. Nocturnal.	SSC	Low potential. No individuals identified during surveys; limited suitable habitat in the proposed project area due to development and agricultural practices. Several CNDDDB occurrences 8–10 miles south of the proposed project area in gravelly ephemeral and intermittent pools and washes, as recently as 2014.
Foothill yellow-legged frog	<i>Rana boylei</i>	Occurs in most of northern California west of the Cascade crest, and along the western flank of the Sierras south to Kern County. Elevation extends from near sea level to 6,365 feet. Found in or near rocky streams in a variety of habitats, including valley-foothill hardwood, valley-foothill hardwood conifer, valley-foothill riparian, mixed chaparral, and wet meadow types. Adults eat both aquatic and terrestrial	SSC	Low potential. Nearest CNDDDB occurrence 4.5 miles north of the proposed project area. Suitable habitat occurs in and around Spring Creek; however, the lack of perennial waterflow makes it unlikely that this species would occur in the proposed project area.

Table 5.4-1 Special Status Species with the Potential to Occur within the Proposed Project Area

Common Name	Scientific	Description and Habitat	Status	Occurrence
		invertebrates.		
Reptiles				
Western pond turtle	<i>Emys marmorata</i>	Uncommon to common in suitable aquatic habitat throughout California, west of the Sierra-Cascade crest; elevation ranges from near sea level to 4,700 feet. Associated with permanent or nearly permanent water in a wide variety of habitat types. Require basking sites, such as submerged logs and rocks, with underwater retreats close by.	SSC	Moderate Potential. Nearest CNDDDB occurrence approximately 1.5 miles northeast of the proposed project area, in Clear Creek. Suitable habitat may occur in Spring Creek; however, the lack of perennial aquatic features in the proposed project area makes occurrence of this species unlikely in the proposed project area.
Birds				
Bald eagle	<i>Haliaeetus leucocephalus</i>	Permanent resident and uncommon winter migrant in California, restricted to breeding in several counties, including Shasta. More common at lower elevations; not found in the high Sierra Nevada. Requires large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches for feeding. Perches high in large, stoutly limbed trees, on snags or broken-topped trees, or on rocks near water. Roosts communally in winter in dense, sheltered, remote conifer stands.	SE, FD	Present. Individual observed foraging near the BLM land adjacent to the proposed project. No suitable nesting or foraging habitat present within the proposed project area.
Bank swallow	<i>Riparia riparia</i>	A neotropical migrant found primarily in riparian and other lowland habitats in California west of the deserts during the spring-fall period. A spring and fall migrant in the interior, less common on coast; an uncommon and very local summer resident. In summer, restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils, into which it digs nesting holes. In migration, flocks with other swallows over many open habitats. Feeds predominantly over open riparian areas, but also over brushland, grassland, wetlands, water, and cropland; and uses holes dug in cliffs and	ST	Low Potential. No suitable habitat located within the proposed project area. Two CNDDDB occurrences within 10 miles, with the closest occurrence ~7 miles to the east of the proposed project area. According to eBird, majority of sightings near the proposed project area are in the Sacramento River corridor.

Table 5.4-1 Special Status Species with the Potential to Occur within the Proposed Project Area

Common Name	Scientific	Description and Habitat	Status	Occurrence
		river banks for cover.		
Tricolored blackbird	<i>Agelaius tricolor</i>	Common locally throughout Central Valley and in coastal districts from Sonoma Co. south. Breeds near fresh water, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Feeds in grassland and cropland habitats. Breeds locally in northeastern California. Seeks cover in emergent wetland vegetation, especially cattails and tules; also in trees and shrubs. Roosts in large flocks in emergent wetland or in trees.	SSC	Low Potential. No suitable habitat present in project area. Several CNDDB occurrences within 5 miles of the proposed project area; however, they all occur within Sacramento River, Cottonwood Creek and Clear Creek corridors, which provide much more suitable habitat than is available in the proposed project area. Majority of eBird sightings focused within Sacramento River corridor.
Northern spotted owl	<i>Strix occidentalis caurina</i>	An uncommon, permanent resident in suitable habitat. In northern California, resides in dense, old-growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats, from sea level up to approximately 7,500 feet. Feeds in forest habitats upon a variety of small mammals, including flying squirrels, woodrats, mice and voles, and a few rabbits. Uses dense, multi-layered canopy cover for roost seclusion.	FT	Low Potential. The proposed project area would not traverse any intact forest that would provide breeding, hibernation, or foraging habitat. No CNDDB occurrences within 10 miles. There have been no eBird sightings near the proposed project area.
Swainson's hawk	<i>Buteo swainsoni</i>	Uncommon breeding resident and migrant in the Central Valley; breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. Roosts in large trees, but will roost on ground if none available.	ST	Low potential. Suitable foraging habitat in the open fields and grasslands adjacent to the proposed project area; however, there is no suitable breeding habitat in the proposed project area. There are no CNDDB occurrences within 10 miles of the proposed project. Several eBird sightings within 10 miles of the proposed project area; however, they are all within the Sacramento River corridor.

Table 5.4-1 Special Status Species with the Potential to Occur within the Proposed Project Area

Common Name	Scientific	Description and Habitat	Status	Occurrence
Mammals				
Fisher	<i>Pekania pennanti</i>	Occurs in intermediate to large-tree stages of coniferous forests and deciduous-riparian habitats with a high percent canopy closure. Use cavities in large trees, snags, logs, and rock areas for shelter, as well as mature dense stands of trees providing cover in winter.	F-proposed, S-Candidate	Low Potential. Nearest CNDDDB occurrence, ~5 miles north of the proposed project area. However, no suitable, intact, forest habitat present in the proposed project area.
Pallid bat	<i>Antrozous pallidus</i>	Locally common species of low elevations in California. A wide variety of habitats is occupied, including grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. The species is most common in open, dry habitats with rocky areas for roosting. A yearlong resident in most of the range. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Prefers rocky outcrops, cliffs, and crevices with access to open habitats rare for foraging. Nocturnal; hibernates.	SSC	Moderate Potential. No suitable roosting habitat within the proposed project area; however, there is suitable foraging habitat present within and adjacent to the proposed project area. Nearest CNDDDB occurrence is under the Brady Creek Bridge (~7 miles north of the proposed project area), 7 adults observed roosting in July 2002, and 1 juvenile observed roosting in August 2002.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	This species is found in all but subalpine and alpine habitats, and may be found at any season throughout its range. Requires caves, mines, tunnels, buildings, or other human-made structures for roosting. May use separate sites for night, day, hibernation, or maternity roosts. Bats at hibernacula from October to April.	S-Candidate, SSC	Moderate Potential. No suitable roosting habitat within the proposed project area; however, there is suitable foraging habitat present within and adjacent to the proposed project area. There were two CNDDDB occurrences in the Igo quad, ~5 miles north of the proposed project area (1997 and 2002); both occurred at mine sites.
Western red bat	<i>Lasiurus blossevillei</i>	Locally common in some areas of California, occurring from Shasta Co. to the Mexican border, west of the Sierra Nevada/Cascade crest. There is migration between summer and winter ranges, and migrants may be found outside the normal range. Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. Feeds over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands. Prefers	SSC	Moderate Potential. There is suitable foraging habitat present within and adjacent to the proposed project area. Nearest CNDDDB occurrence is ~4.5 miles, from the proposed project area (2002). Suitable roosting habitat exists within and adjacent to the proposed project area.

Table 5.4-1 Special Status Species with the Potential to Occur within the Proposed Project Area

Common Name	Scientific	Description and Habitat	Status	Occurrence
		edges or habitat mosaics that have trees for roosting and open areas for foraging.		

Sources: CNDDDB 2016; USFWS 2016; CNPS 2018; eBird 2017

Status explanations:

Federal (F)

E = listed as endangered under the federal Endangered Species Act.

T = listed as threatened under the federal Endangered Species Act.

State (S)

E = listed as endangered under the California Endangered Species Act.

T = listed as threatened under the California Endangered Species Act.

SSC = species of special concern in California.

1B.1 = Rare, threatened, or endangered in California and elsewhere. Extremely endangered in California.

1B.2 = Rare, threatened, or endangered in California and elsewhere. Moderately endangered in California.

Key:

CNDDDB California Natural Diversity Data Base

CNPS California Native Plant Society

USFWS U.S. Fish and Wildlife Service

5.4.2 Regulatory Setting

Federal

Federal Endangered Species Act. Enacted to protect threatened and endangered (T&E) species and the ecosystems upon which they depend, the ESA (16 U.S. Code [U.S.C.] 1531 *et seq.*) is administered by the USFWS and the U.S. National Oceanic and Atmospheric Administration. The ESA makes it unlawful to harm a species listed as threatened or endangered or its habitat without a permit. Doing so would be considered a “take,” which is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct.” Section 7 of the ESA requires a federal agency to consult with the USFWS when any action it carries out, funds, or authorizes may affect a listed T&E species. For projects that are not carried out, funded, or authorized by a federal agency, Section 10 of the ESA allows the USFWS to issue a permit to the project proponent to take listed T&E species incidental to otherwise legal activity.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act (MBTA) makes it illegal to “pursue, hunt, take, capture, kill, attempt to take, capture, kill, possess, sell, and barter” native migratory bird species without a permit. The MBTA (16 U.S.C. §§ 703–712) was enacted in response to declines of migratory bird populations from uncontrolled commercial uses. The MBTA is a multi-national effort to protect migratory birds and extends to almost all migratory birds. The MBTA covers 836 species, including 58 that may be legally hunted. The MBTA excludes non-migratory birds (e.g., quail, turkeys, etc.) and non-native species.

Clean Water Act. The CWA (33 U.S.C. 1251 *et seq.*) regulates discharge of pollutants into the waters of the U.S. with the objective of restoring and maintaining the chemical, physical, and biological integrity of the nation’s waters. Under Section 404 of the CWA, the USACE is authorized to regulate the discharge of fill or dredged material into waters of the U.S., which includes wetlands. Wetlands are defined as lands that are “inundated or saturated by surface or ground water at a frequency or duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 Code of Federal Regulations 328.3; 40 Code of Federal Regulations

230.3). The USACE requires a project proponent to obtain a Section 404 Nationwide or Individual Permit if the project proposes to dredge or fill waters that fall within the jurisdiction of the CWA.

Section 401 of the CWA stipulates that a federal agency cannot issue a permit or license for an activity that may result in a discharge to waters of the U.S. unless the state or tribe where the discharge would originate has granted or waived Section 401 water quality certification. The state or tribe may grant, grant with conditions, deny, or waive certification. In California, the Regional Water Quality Control Boards administers the Section 401 Water Quality Certification Program. Section 401 certification is required before the USACE may issue a Section 404 permit for discharge of dredged or fill material into waters of the U.S. Many states, including California, rely on Section 401 certification as a primary regulatory tool for protecting wetlands and other aquatic resources.

State

California Endangered Species Act (CESA). The CESA (California Fish & Game Code Section 2050, *et seq.*) establishes legal protection for state-listed threatened and endangered plants and wildlife under the purview of the CDFW. The CDFW also identifies Species of Special Concern, which are those that may become listed as threatened or endangered due to loss of habitat, limited distributions, and diminishing population sizes or because the species is deemed to have scientific, recreational, or educational value. Any project that proposes to impact a CESA species or California Species of Special Concern requires consultation with the CDFW. California Fish and Game Code Section 2081 provides a permit process for incidental take of species listed as T&E pursuant to CESA when certain permit conditions are met.

California Fish and Game Code, Sections 1600–1603. This statute regulates activities that would “substantially divert or obstruct the natural flow of, or substantially change the bed, channel, or bank of, or use material from the streambed of a natural watercourse” that supports fish or wildlife resources. A stream is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life, including watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. The CDFW has jurisdiction over any activities regulated under Sections 1600–1603. If fish or wildlife may be substantially adversely affected, a Streambed Alteration Agreement, providing for implementation of measures to protect fish and wildlife resources, may be required by the CDFW for any project within the purview of this statute.

California Fish and Game Code, Sections 3503, 3503.5, 3511, and 5050. The CDFW has jurisdiction over all California wildlife, fish, plants—including threatened and endangered and other special status species—and their habitats. CDFW Code Section 3503 specifies the following general provision for birds: “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” Section 3503.5 states that it is “unlawful to take, possess, or destroy any birds in the order *Falconiformes* or *Strigiformes* (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season that results in the incidental loss of fertile eggs or nestlings, or otherwise leads to nest abandonment, is considered a take. Disturbance that causes nest abandonment and/or loss of reproductive effort is also considered a take by the CDFW. Sections 3511 and 5050 prohibit the taking and possession of birds and reptiles listed as “fully protected.” Any potential impact on avian species requires consultation with the CDFW.

California Environmental Quality Act Guidelines Section 15380. CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. A species may be considered “endangered” when its survival and reproduction in the wild are immediately threatened or “rare” when

the species exists in such small numbers or in only a small portion of its range so that it may become endangered if the conditions of its habitat worsen. Non-listed species that may be considered by CEQA include, but are not limited to, plants categorized by the CNPS as rare or endangered (including species considered rare and endangered only in California) or any plants considered locally or regionally significant by local governments or agencies. Because CEQA does not limit the discussion of impacts to species listed as threatened or endangered by either the federal or state governments, biological impacts are assessed and mitigation measures are assigned on a case-by-case basis, accounting for the scope of the project, the specifics of the site, and the individual species in question, among other factors.

Local

Shasta County General Plan. The Fish and Wildlife Habitat element of the General Plan contains policies and objectives aimed at addressing the need to preserve unique and important aquatic fish and wildlife habitats, and plant communities for their biological resource and ecological values, as well as for their direct and indirect benefits to the citizens of Shasta County. Key resource protection strategies discussed within the General Plan include fisheries and riparian habitat management for the Sacramento River, protection of waterway corridors, protection of wetland resources, and avoiding fragmentation and isolation of habitats. Objectives and policies relevant to the wetlands and waterways in the proposed project area are contained in Water Resources Element, and are discussed further in Section 5.9, “Hydrology and Water Resources”. The following objectives and policies would apply to the proposed project:

- *Objective FW-2: Provide for a balance between wildlife habitat protection and enhancement and the need to manage and use agricultural, mineral extraction, and timberland resources.*
- *Policy FW-a: Significant wildlife habitat resources, as discussed in the Plan text, when not otherwise classified as Timberland (T), Cropland (A-C), or Grazing (A-G) shall be classified on the General Plan maps as Natural Resources Protection-Habitat (N-H).*
- *Policy FW-b: Recognition that classification of some fish, wildlife, and vegetation resources designated and used as Timberlands, Mineral Resource, Croplands, or Grazing lands does, in most cases, protect habitat resources. However, if there is a conflict, the timber, mineral extraction, or agricultural land use classifications mentioned above shall prevail in a manner consistent with State and Federal laws.*
- *Policy FW-c: Projects that contain or may impact endangered and/or threatened plant or animal species, as officially designated by the California Fish and Game Commission and/or the U. S. Fish and Wildlife Service, shall be designed or conditioned to avoid any net adverse project impacts on those species.*
- *Policy FW-h: The County shall encourage efforts to develop tree protection standards which focus on the County's differing land use types, namely: lowland urban, upland urban, rural residential and resource lands. Urban tree protection standards shall focus on landscaping that promotes energy conservation and design aesthetics, as opposed to preserving native vegetation.*

5.4.3 Environmental Impacts and Mitigation Measures

The impact analysis below identifies and describes the proposed project’s potential impacts on biological resources in the proposed project vicinity. Potential impacts were evaluated according to significance criteria based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a more detailed evaluation. Aboveground components of the proposed project would include seven equipment cabinets at DLC sites. The

equipment cabinets would measure approximately 2 by 3 by 4 feet, and each cabinet would be surrounded by approximately 20 square feet of gravel. Operations and maintenance efforts associated with the DLC sites would be minimal and would be restricted to occasional visits by TDS technicians to check on equipment and to connect or disconnect customers. The proposed DLC sites would not be located in sites that would substantially affect any species identified as a candidate, sensitive, or special status species, or have a substantial adverse effect on state or federally protected wetlands, including but not limited to those defined by Section 404 of the CWA. The fiber optic cables would be placed in buried conduit within ROW on existing roads. Post-construction, the conduit would be restored to its original contour and where necessary, vegetation would be restored in a manner consistent with County and/or California Department of Transportation standards. Once installed, the cable would not require regular maintenance as part of normal operating procedures.

The proposed project would not occur within the boundaries of any Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan. There would be no impact under criterion (f), and a detailed discussion is therefore not provided for this criterion.

Applicant Proposed Measures

The applicant would implement the following applicant proposed measures (APMs) to minimize or avoid potential impacts on biological resources. **APM BIO-1** is not discussed in the impact analysis because the measure has already been incorporated into the project design and it is categorized as a project design feature (PDF) in Chapter 4. Mitigation Measure (MM) GEN-1 requires implementation of these APMs to mitigate impacts on biological resources and the impact analysis in this section applies these APMs to reduce impacts. A list of all proposed project APMs is included in Table 4-2 in Chapter 4.

APM BIO-2: Bore pits will be placed a minimum distance of 5 m (16 feet) beyond either the top of waterway banks or the maximum extent of any vegetation present along the waterways' margins.

APM BIO-3: Bore pits will be placed a minimum distance of 76 m (250 feet) beyond either the edge of seasonal wetlands or the maximum extent of any vegetation present along the wetlands' margins.

APM BIO-4: A SWPPP will be developed and will include BMPs that will be implemented during construction to minimize or eliminate sediment transport from areas subject to ground disturbance.

APM BIO-5: All orchards will be avoided during construction.

APM BIO-6: No trees will be removed during project construction. If vegetation trimming is required to complete the installations, trimming will be kept to the absolute minimum necessary.

Significance Criteria

Table 5.4-2 describes the significance criteria from Appendix G of the CEQA Guidelines' biological resources section, which the CPUC used to evaluate the environmental impacts of the proposed project.

Table 5.4-2 Biological Resources Checklist

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

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

Special Status Plants. The proposed project would be installed along an existing ROW within the bed or shoulder of established roadways. While surveys did not identify any special status plants in the proposed project area, special status plants such as red bluff dwarf rush, silky cryptantha, and slender Orcutt grass have a potential to occur within certain ephemeral wetlands along the proposed project route, and Nuttall's ribbon-leaved pondweed has a moderate potential to occur in Wetland A. While all wetlands will be bored beneath and avoided during construction, wetlands may be indirectly impacted by construction activities. Invasive plant species are present throughout the proposed project area, and

although the proposed project would be built solely within the existing ROW, special status plants in the proposed project area could be impacted if invasive plants are spread into areas of native vegetation.

To minimize these potential impacts, the applicant would implement the following APMs. **APM BIO-2** and **APM BIO-3** would ensure that bore pits are placed a minimum distance (16 feet for waterways and 250 feet for wetlands) beyond either the top of banks or the maximum extent of any riparian vegetation present along wetland and waterway margins. In addition, **APM BIO-4** would require a Stormwater Pollution Prevention Plan (SWPPP) to be developed, which would include best management practices (BMPs) that would minimize or eliminate sediment transport from areas subject to ground disturbance (e.g., bore pits and trenches). **APM GEO-3** would ensure that no construction-related materials, wastes, spills, or residues would be discharged from the proposed project into adjacent wildlife habitat. **APM GEO-4** would require the applicant to stage all materials, equipment, and excavation spoils outside of drainages, and **APM GEO-5** would ensure that all excavated or disturbed soils would be kept within a controlled area surrounded by a perimeter barrier, preventing sediment transport into riparian areas or aquatic features and minimizing the spread of invasive plant propagules. With the implementation of these APMs, impacts on special status plant species, if present, would be less than significant.

Nesting Birds. No nests were observed within the biological study area during surveys. However, areas adjacent to the project corridors and the study area contain trees and other vegetation that may be utilized by special status bird species (Tierra ROW 2015a, Appendix D). If birds nest in or near construction areas prior to or during construction, nesting birds may be impacted. Vegetation clearing may directly impact nests or nestlings. Dust and noise from construction activities could indirectly impact nesting birds. As a result, these impacts would have a potentially significant impact on nesting birds.

To reduce these potential impacts, the applicant would implement the following. **APM BIO-6**, which would ensure that no trees are removed as part of the proposed project and that vegetation clearing is minimized. **APM AQ-1** would reduce the potential for fugitive dust by requiring the stabilization of disturbed areas and unpaved roads using water or dust suppressants. **APM NOI-1** would limit construction to the hours of 7 AM to 7 PM, reducing the chance that birds could be disturbed from a nest at night when cooler temperatures could threaten eggs' viability.

Even with implementation of **APM BIO-6**, **APM AQ-1**, and **APM NOI-1**, noise, dust, and human presence associated with construction activities could prevent adult birds from successfully incubating eggs or attending to chicks in nests adjacent to construction areas, which would be a significant impact. The applicant would implement **MM BIO-1**, which outlines measures to avoid impacts to nesting birds. With implementation of **APM BIO-6**, **APM AQ-1**, **APM NOI-1**, and **MM BIO-1**, impacts on nesting birds would be reduced to less than significant.

Amphibians and Reptiles. There is a potential for foothill yellow-legged frog to occur in or around Spring Gulch and Telephone Gulch; however, due to these features being ephemeral, they are unlikely to support this species of frog. The nearest CNDDDB occurrences are 4.5 to 5 miles north of Igo, at higher elevations and in more developed stream corridors than are present in the proposed project area. Minimal suitable habitat for western spadefoot occurs in the proposed project area, due to grazing and other agricultural practices, development, and roadways (Shedd 2016). In addition, the nearest CNDDDB occurrences since 2006 are more than 8 miles away from the proposed project area, to the south and east. While the proposed telecom line would be directionally drilled under all wetland and waterway features, these amphibians could be run over by construction equipment if they were to migrate into upland areas around the aquatic features during construction. In addition, construction activities could contribute to dust and increased runoff and chemical pollution that could degrade water and habitat quality. These impacts would be potentially significant.

To reduce potential impacts on amphibians and reptiles, the applicant would implement the following APMs. **APM BIO-2** and **APM BIO-3** would provide for minimum bore pit setbacks from water bodies. These APMs would ensure that direct impacts due to collision would be unlikely, as would any runoff from project-related activities into these aquatic features. **APM BIO-4** would require the applicant to prepare a SWPPP to be implemented during construction, which would contain BMPs to minimize sedimentation and runoff into aquatic habitat. **APM BIO-5** would ensure that no construction activities occur in any orchards in the proposed project area, reducing the potential to impact western spadefoot. The applicant would also implement **APM GEO-2** and **APM GEO-3**, which require the preparation of a SWPPP that outlines BMPs to control discharges from construction areas and would ensure that no construction-related materials, wastes, spills, or residues would be discharged from the proposed project. **APM GEO-4**, **APM GEO-5**, and **APM GEO-6** would require the contractor to stage materials, equipment, and excavation spoils outside of drainages; enact erosion control; and cover stockpiled materials, respectively. In addition, **APM AQ-1** sets a maximum vehicle speed of 15 miles per hour for all construction-related vehicles on unpaved surfaces, reducing the risk of collision with wildlife. **APM NOI-1** would limit construction to 7am and 7pm, which would reduce the potential to impact western spadefoot, a nocturnal species. These APMs would reduce direct and indirect impacts on western spadefoot and foothill yellow-legged frog to less than significant.

Mammals. Construction activities have the potential to directly and indirectly impact western red bats roosting in trees and/or shrubs in the proposed project area. Tree trimming could directly impact roosting bats, and construction noise and dust could indirectly impact roosting bats.

To avoid or minimize these potential impacts, the applicant would implement **APM BIO-6**, which would ensure that no trees are removed as part of the proposed project. **APM AQ-1** would reduce the potential for fugitive dust by requiring the stabilization of disturbed areas and unpaved roads using water or dust suppressants. **APM NOI-1** would ensure that construction has no impact on foraging bats, restricting construction equipment operation to the hours between 7 a.m. and 7 p.m., outside of the nocturnal bats' foraging time. With the implementation of these APMs, impacts on mammals would be less than significant.

Fish. There are no suitable waters able to sustain any special status fish populations in the proposed project area, and no aquatic habitat would be impacted by the proposed project; therefore, there would be no impact on special status fish populations.

MM GEN-1 would ensure that the applicant would implement all proposed APMs.

Significance: Less than significant with mitigation.

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

No sensitive natural communities were identified during field surveys. Limited riparian habitat exists along the margins of several wetlands and waterways in the proposed project area. Riparian vegetation could be indirectly impacted by runoff, dust, sedimentation, or chemical spills from an adjacent construction area.

Direct impacts on sensitive natural communities would be avoided with implementation of **APM BIO-2** and **APM BIO-3**, which requires the applicant to completely avoid wetlands and waterways and their associated riparian vegetation during telecom line installation through the use of horizontal boring and bore pit setbacks. Indirect impacts on sensitive natural communities would be minimized through the implementation of **APM BIO-4**, which requires a SWPPP to be developed that would include BMPs to

minimize or eliminate sediment and pollution transport from construction areas into riparian habitat. These APMs would ensure that any impacts on riparian habitat would be less than significant.

Significance: Less than significant.

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

The proposed project would avoid all potentially jurisdictional aquatic features through the use of directional drilling and bore pit setbacks. Therefore, there would be no direct impacts to state or federally protected wetlands. However, wetlands could be indirectly impacted by runoff, dust, sedimentation, or chemical spills from an adjacent construction area, which could degrade water quality.

To minimize or avoid these potential impacts, the applicant would implement **APM BIO-2** and **APM BIO-3** to ensure that all waterways and wetlands in the proposed project area would be completely avoided during construction through the use of directional drilling and bore pit setbacks. **APM BIO-4** would require development of a SWPPP that would include BMPs that would minimize or eliminate sediment and pollution transport from construction areas into adjacent wetlands. **APM GEO-3** would ensure that no construction-related materials, wastes, spills, or residues would be discharged from the proposed project. **APM GEO-4**, **APM GEO-5**, and **APM GEO-6** would require the contractor to stage materials, equipment, and excavation spoils outside drainages, as well as ensure that excavated or disturbed soils are controlled by a perimeter barrier (e.g., silt fencing, hay bales, straw wattles, etc.), reducing the risk of runoff and sedimentation. These APMs would ensure that any impacts on state or federally protected wetlands would be less than significant during construction.

Significance: Less than significant.

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

Impacts from the proposed project would be short term and minor. The telecom line would be installed underground, and silt fencing and construction fencing would be in place temporarily during construction, leaving little permanent, aboveground infrastructure that could impede the migration of terrestrial wildlife or birds. Construction activities would not impact aquatic features with a potential to contain any migratory fish. The proposed project would not impact any wildlife nursery sites. Therefore, impacts to the movement of migratory fish or wildlife species or wildlife nursery sites during construction would be less than significant.

Significance: Less than significant.

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

The proposed project would be consistent with the Shasta County General Plan and would not conflict with any local ordinances or policies protecting biological resources during project construction or operation.

1 **Significance: No impact.**

2
3 **Mitigation Measures**

4 **MM BIO-1: Nesting Birds Avoidance.** Should construction activities take place between February 1 and
5 August 31, a CPUC-approved qualified biologist shall conduct a preconstruction survey to identify active
6 nests with the potential to be disturbed by construction within seven days of the onset of construction in
7 areas within 200 feet of potential nesting bird habitat. Should active nests be detected within 200 feet of a
8 construction area, the biologist will establish a buffer around the nest large enough to ensure that
9 construction will not disturb the nesting pair. The buffer limits shall be identified where they meet the
10 construction area using flagging or signage. If construction must take place within the buffer (e.g., the
11 nest cannot be bored underneath and avoided), the biologist shall monitor the nesting pair for signs of
12 disturbance for as long as construction activities remain within buffer limits. If the nesting pair shows
13 signs of disturbance, the biologist will halt construction activities within the buffer until the pair exhibits
14 normal behavior. If, in the biologist's best judgement, the presence of construction may threaten nest
15 success, construction activities will be prohibited within the buffer until the nest is no longer active.
16 Should construction activities in a given area lapse for more than seven days, the biologist shall re-survey
17 that area. Results of surveys shall be submitted to the CPUC within one week of completion.

5.5 Cultural Resources

“Cultural resources” is a broad term that includes, but is not limited to, historical resources and archaeological resources (which may be historic or prehistoric and can be historical resources or unique archaeological resources), which are defined below:

- **Historical Resources:** Historical resources are those listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) or a local register, or are otherwise determined to be historical pursuant to the CEQA Guidelines (Public Resources Code [PRC] section 21084.1, PRC section 5020.1, and California Code of Regulations, title 14, section 15064.5, respectively). Historical resources may be objects, buildings, structures, sites, areas, places, records, or manuscripts that are historically or archaeologically significant or significant in terms of California’s architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural records. Typically, historical resources are more than 50 years old.
- **Archaeological Resources:** Archaeological resources are archaeological artifacts, objects, or sites. They may be considered historical resources if they meet the definition of historical resources as defined by CEQA (PRC section 21084.1 and California Code of Regulations, title 14, section 15064.5). If they are not determined to be historical resources, they may be determined “unique” as defined by CEQA (PRC section 21083.2(g)). Unique archaeological resources are archaeological artifacts, objects, or sites about which it can be clearly demonstrated that there is a high probability that they meet any of the following criteria: (1) they contain information needed to answer important scientific research questions, and there is a demonstrable public interest in that information; (2) they have a special and particular quality such as being the oldest of their type or the best available example of their type; or (3) they are directly associated with a scientifically recognized important prehistoric or historic event or person. Non-unique archaeological resources are archaeological artifacts, objects, or sites that do not meet the above criteria, and they are not typically addressed under CEQA (PRC section 21083.2(h)).

Another type of cultural resource is a tribal cultural resource. These types of resources are discussed in Section 5.18, “Tribal Cultural Resources.”

5.5.1 Environmental Setting

Information presented in this section was compiled from *A Class III Cultural Resource Survey for a Proposed Buried Telecommunications Fiber-Optic Line in Happy Valley, Shasta County, California* (Howell and Copperstone 2017), TDS Telecom’s (TDS’s, or the applicant’s) Proponent’s Environmental Assessment (Tierra Right of Way Services, Ltd. 2015) and subsequent submittals from TDS (responses to data requests) for the proposed project, and the results of the CPUC’s consultation with California Native American tribes pursuant to Assembly Bill (AB) 52 regulations (further discussed in Section 5.18, “Tribal Cultural Resources”). The CPUC’s qualified consultant reviewed these documents, as well as other applicant-submitted information. In addition, the Shasta County General Plan provided additional local context with regard to cultural resources.

For the purposes of this evaluation, the environmental setting for which direct effects are considered includes a buffer of 29 feet to either side of the proposed project alignment (a total of 58 feet); this area is referred to as the area of direct impact (ADI). This includes a 25-foot buffer on either side of the proposed 8 feet for ground disturbance for the conduit. Adjacent parcels (i.e., those touching or encompassed by the buffer) also are considered with regard to potential indirect effects; these areas are referred to as the area of indirect impact (AII). Collectively, the ADI and AII form the area of potential impact (API). Records

searches extend beyond the API to include 0.5 mile on either side of the proposed project alignment to provide a regional context for which the significance of resources may be derived.

Regional Cultural Setting

The regional cultural setting for the proposed project includes evidence for prehistoric Native American settlement and use in Northern California; ethnographic or ethnohistoric documentation for Native American tribes residing in, or otherwise using, the proposed project area at the time of contact with European (Spanish and Russian) explorers and early Euro-American (Mexican and American) settlers; and historic Euro-American and Native American settlement in Northern California and the general vicinity of the proposed project area up to the present day. The prehistoric and historic cultural settings for the proposed project are discussed in greater detail below. Section 5.18, "Tribal Cultural Resources," discusses the Native American cultural setting in more detail, including the ethnographic and ethnohistoric setting.

Prehistoric Cultural Setting

The archaeological record documenting the prehistory of Northern California suggests continuous human occupation of northern California since ca. 6,000 B.C. Archaeological sites are associated with the Borax Lake pattern (ca. 6,000 to 3,000 B.C.), the Squaw Creek pattern (ca. 3,000 to 1,000 B.C.), the Whiskeytown pattern (ca. 1,000 B.C. to A.D. 200), the overlapping Tehama pattern (A.D. 100 to 450), and the Shasta complex (A.D. 450 to 1539). The Borax Lake, Squaw Creek, Whiskeytown, and Tehama patterns represent prehistoric cultural traditions present in Northern California prior to exploration and settlement by Euro-Americans. Settlement during these cultural patterns consisted of seasonal camps, likely to take advantage of seasonally available food resources, and is associated with Hokan-speaking groups of Northern California.

Sites associated with the Shasta complex represent a prehistoric cultural tradition in Northern California that began prior to, and was still present during, Euro-American exploration and settlement. Settlement during this cultural pattern consisted of permanent settlements near streams and a riverine-oriented hunting and gathering food procurement strategy, and is associated with Wintu groups that arrived in Northern California around A.D. 450, pushing Hokan-speaking groups further east.

The Borax Lake pattern (ca. 6,000 to 3,000 B.C.) is represented by archaeological sites reflecting seasonal occupation and characteristic artifact assemblages comprising large projectile points, manos, and millingstones that reflect hunting and gathering activities for local animal and plant resources. The Squaw Creek pattern (ca. 3,000 to 1,000 B.C.) is believed to have developed gradually out of the Borax Lake pattern and is represented by archaeological sites reflecting seasonal occupation and characteristic artifact assemblages comprising Squaw Creek Contracting Stem projectile points, leaf-shaped projectile points, unifaced stone tools, cobble spalls, and bowl-and-slab mortars and pestles that continue to reflect hunting and gathering activities for local plant and animal resources.

The Whiskeytown pattern (ca. 1,000 B.C. to A.D. 200) followed the Squaw Creek pattern and is represented by archaeological sites reflecting seasonal occupation and characteristic artifact assemblages comprising large- and medium-sized corner- and side-notched projectile points, manos, millingstones, and notched-pebble net-weights that continue to reflect hunting and gathering for local plant and animal resources. The appearance of net-weights during the Whiskeytown pattern reflects an increased reliance on riverine resources, such as fish that were more easily procured by using nets. Additionally, the archaeological record shows evidence for using basketry for cooking. The Tehama pattern (ca. A.D. 100 to 450) overlapped slightly with the Whiskeytown pattern and is represented by archaeological sites reflecting seasonal occupation and characteristic artifact assemblages that reflect the introduction of the bow-and-arrow, with smaller side- and corner-notched projectile points, into hunting activities.

The Shasta complex (A.D. 450 to 1539) represents a break from earlier prehistoric cultural patterns in Northern California. Sites associated with the Shasta complex are associated with Wintu-speaking groups and are represented by archaeological sites reflecting permanent settlements near streams, with semi-subterranean housing, to take advantage of riverine food resources, and characteristic artifact assemblages that include hopper mortars and pestles. The settlement pattern, food procurement strategy, and characteristic housing and artifact assemblage features of the Shasta complex were characteristic of Wintu-speaking groups encountered by Euro-American explorers and early settlers and continued well into the historic period.

Historic Cultural Setting

The historic cultural setting for California is typically divided into three broad periods: the Spanish Period (A.D. 1539 to 1821), the Mexican Period (A.D. 1821 to 1848), and the American Period (A.D. 1848 to 1940).

Spanish Period. The Spanish Period is associated with the period of Spanish exploration and control of California. Gabriel Morago was the first Spanish explorer to arrive in the Sacramento River valley, arriving in 1808 at the end of an expedition to explore Northern California between 1806 and 1808, although he does not appear to have reached the proposed project area in Happy Valley. No permanent Spanish settlement occurred as a result of this contact, and local Hokan- and Wintu-speaking Native American groups in the vicinity appear to have continued patterns and practices exhibited during the late Shasta complex prehistoric period. It may be likely that local Native American groups had indirect contact with the Spanish, and other Euro-American explorers such as Russians and Americans, via inter-tribal connections with other Native American groups. Evidence for this indirect contact would be most obviously expressed via the appearance of Euro-American trade goods in the material culture.

Mexican Period. The Mexican Period is associated with the period of Mexican control of California following Mexico's independence from Spain, and also had very little direct influence in the Sacramento River valley. While Mexico controlled the area where the proposed project would be located, early American and Canadian explorers and trappers appear to have had a greater presence in this area than Mexicans. During the Mexican period, members of the expeditions of the American Jediah Smith in 1826 and the Canadian Peter Ogden in 1827 were the first known Euro-Americans to contact Wintu groups in Northern California, followed by subsequent visits by John Work of the Hudson Bay Company in 1833 and the U.S. Exploring Expedition in 1841. As a result of this early Euro-American contact, the local Wintu tribes were decimated by the introduction of malaria, which instigated long-term consequences to the Wintu cultural fabric, weakening it by population loss and leaving them ill-equipped to effectively deal with the coming incursions of Euro-American settlers into their traditional territories.

American Period. The American Period is associated with the period following the United States' acquisition of California from Mexico, and California's subsequent elevation to statehood. This period has had a direct influence in the Sacramento River Valley, including areas within and adjacent to the proposed project. Acquisition of California by the United States coincided with the California Gold Rush, which commenced in earnest following the discovery of gold at Sutter's Mill in the now abandoned settlement of Coloma in El Dorado County, and mining has played an important role in the proposed project area. Major Reading and his Indian laborers discovered the first gold in Shasta County in March of 1848 on land within Rancho Bueno Ventura, at the mouth of Clear Creek, where it drains into the Sacramento River (State of California 2017a, 2017b).

Large-scale mining operations began in the vicinity of the proposed project in 1851, following this first discovery. Placer mining was practiced from 1848 to 1855, followed by hydraulic and drift mining from the 1860s through the 1880s. Local communities were established during this time, including the city of Redding, as well as the smaller communities of Piety Hill, Igo, and Ono. Chinese laborers were brought into the area beginning in the 1860s to support hydraulic and drift mining activities associated with the

nearby Hardscrabble and Russell Mines near Igo. Many of the ditches built in the area, including the Happy Valley Irrigation Ditch, were originally constructed by Chinese workers to support hydraulic mining. Local tradition indicates that the names of the nearby communities of Igo and Ono derive from pidgin English expressions used by Chinese laborers.

Mining continued to be the predominant industry in Shasta County until about 1900, by which time the area's placer deposits had largely been depleted. Settlers and miners turned increasingly to farming and ranching, and many mining settlements in the county were abandoned as people relocated to the Redding area. During the 1930s, new mining technologies such as power shovels and dragline dredges led to a resurgence of mining in the area. The dredging produced large amounts of waste material in the form of rocks and sand, which was collected in dredge tailings that are visible in the landscape surrounding the proposed project area. These dredge tailings are present along major waterbodies in the vicinity of the proposed project area (such as Clear Creek, Niles Canyon, Spanish Canyon, the North and South Forks of Gulch Spring, Dry Creek, Cottonwood Creek, and the Sacramento River).

Results of the Records Search

The records search for cultural resources was completed by consulting with the Northeast Information Center (NEIC) of the California Historical Resources Information System (CHRIS) on December 2, 2014 (State of California 2017c). In addition to the records search, archival material at the Shasta Historical Society in Redding; the National Park Service's online databases, which identify historic properties; and Government Land Office maps were reviewed (NPS 2017a, 2017b). The purpose of the records search was to identify all previously conducted cultural resources or archeological surveys and all previously recorded historical resources, historic properties, and archaeological sites within a 0.5-mile buffer zone around the proposed project alignment.

The results of the records search indicate that 32 cultural surveys were previously conducted within 0.5 mile of the proposed project alignment between 1982 and 2013. The records search identified 19 cultural sites that were previously recorded within 0.5 mile of the proposed project alignment:

- 17 historic archaeological resources (dating to the late 19th and early 20th centuries/American Period);
- One late prehistoric archaeological resource (of unspecified date and cultural period); and
- One multi-component resource (unspecified prehistoric and American Period historic).¹

Of the 19 previously recorded cultural resources, two are located within the API for the proposed project: historic archaeological sites CA-SHA-3373H (Landfill Mining Complex) and CA-SHA-3382H (Happy Valley Ditch), which date to the American period (see Table 5.5-1). The proposed project area traverses the northeastern edge of CA-SHA-3373H (the Landfill Mining Complex) and crosses the CA-SHA-3382 (Happy Valley Ditch). In addition to these two resources, the proposed project alignment would be located within the Igo-Ono Gold District. This district is not listed in the National Register of Historic Places (NRHP) or the CRHR.

Results of the Cultural Resources Survey

A cultural resources survey was conducted on February 24 to 26, 2015, for the proposed project by qualified cultural resources specialists. The purpose of this survey was to identify previously recorded cultural resources that were located within the API. In addition, the qualified cultural resource specialists surveyed for new, unrecorded cultural resources within the API. The survey area included a corridor

¹ Three of these resources did not include locational information. They are noted only as being within the 0.5-mile search radius. Resources meeting these descriptions were not identified as part of the cultural resource survey performed for the proposed project.

width of 98 feet, centered on the proposed project alignment; this area incorporates a larger area than the API. The applicant submitted the report to the California Office of Historic Preservation for their review and comment.

The cultural resources specialists surveyed the two previously recorded cultural resources sites and identified 12 additional resources, described in Table 5.5-1. Among these resources are two historic architectural resources and 10 historic archaeological resources (isolated occurrences). In addition to these resources, the Piety Hill Historical Marker also is present; this resource, while included in Table 5.5-1, was not identified as part of the survey. It is noted herein as it is included as a resource to note in the mitigation measures (Section 5.5.3).

Table 5.5-1 Cultural Resources within the Area of Potential Impact

Site Number	Site Name	Description	CRHR Eligibility Status ⁽¹⁾	Located within the Area of Direct Impact
Previously Recorded Resources				
CA-SHA-3373H	Landfill Mining Complex	Historic Archaeological Resource: numerous historic mining sites and features that appear to be associated with the former community of Piety Hill, a 19th century mining town	Recommended not eligible; assumed not eligible for this evaluation	Yes
CA-SHA-3382H	Happy Valley Ditch	Historic Linear Feature: segment of a historic water conveyance system originally built by Chinese laborers to support hydraulic mining operations and subsequently converted for irrigation for agricultural uses	Recommended not eligible; assumed not eligible for this evaluation	Yes
N/A	Piety Hill Historical Marker	CA Point of Interest – the Piety Hill Historical Marker was constructed near 14389 Cloverdale Road, Igo, CA 96047. The marker was built in 2010 (Historical Marker Database 2017).	Unevaluated; assumed not eligible for this evaluation	No
Newly Recorded Resources				
N/A	Igo Inn	Historic Architectural Resource: historic building that was originally a fraternal lodge meeting hall, and was most recently renovated for use as a restaurant; possibly a structure that was originally constructed in the former community of Piety Hill, a 19th century mining town, which was moved to Igo when the community of Piety Hill was abandoned	Unevaluated; assumed eligible for this evaluation	No
N/A	Cloverdale Cemetery (also known as Oak Cemetery or Happy Valley Cemetery)	Historic Cemetery: historic cemetery that is still in use	Unevaluated; assumed to be a tribal cultural resource for this evaluation (see Section 5.18)	No
N/A	N/A	Isolated occurrence: concrete and metal culvert used for water conveyance	Unevaluated; assumed not eligible for this evaluation	Yes
N/A	N/A	Isolated occurrence: glass and white earthenware scatter representing refuse	Unevaluated; assumed not eligible for this evaluation	Yes

Table 5.5-1 Cultural Resources within the Area of Potential Impact

Site Number	Site Name	Description	CRHR Eligibility Status ⁽¹⁾	Located within the Area of Direct Impact
N/A	N/A	Isolated occurrence: small concrete "box" (approximately 3 feet long by 4 feet wide by 0.5 feet high) representing a foundation for an unknown aboveground feature	Unevaluated; assumed not eligible for this evaluation	Yes
N/A	N/A	Isolated occurrence: raised concrete culvert, inscribed with a date of 1942 used for water conveyance	Unevaluated; assumed not eligible for this evaluation	Yes
N/A	N/A	Isolated occurrence: concrete pipe used for water conveyance	Unevaluated; assumed not eligible for this evaluation	Yes
N/A	N/A	Isolated occurrence: metal can representing refuse	Unevaluated; assumed not eligible for this evaluation	Yes
N/A	N/A	Isolated occurrence: metal can representing refuse	Unevaluated; assumed not eligible for this evaluation	Yes
N/A	N/A	Isolated occurrence: metal can representing refuse	Unevaluated; assumed not eligible for this evaluation	Yes
N/A	N/A	Isolated occurrence: U.S. Coastal Geodetic Survey benchmark, inscribed with the number S 378 and a date of 1949	Unevaluated; assumed not eligible for this evaluation	Yes
N/A	N/A	Isolated occurrence: concrete structure, consisting of an L-shaped concrete feature approximately 4 feet long by 0.5 feet wide by 2 feet high on the longer side, and approximately 2 feet long by 0.5 feet wide by 0.5 feet high on the shorter side, representing a possible foundation for an unknown aboveground feature	Unevaluated; assumed not eligible for this evaluation	Yes

Source: Howell and Copperstone 2017; Historical Marker Database 2017.

Notes:

⁽¹⁾ In order to evaluate the potential impacts to historical resources and unique archaeological resources, information regarding their eligibility for the CRHR must be gathered. Two of the resources were previously evaluated and were recommended as not eligible for NRHP listing; per the applicant, this status also is applicable to the CRHR (i.e., the Landfill Mining Complex and the Happy Valley Ditch). Previous recommendations for eligibility were retained for this evaluation, unless evidence from site records and photographs suggested otherwise. For cultural resources that were not evaluated, site records and information presented within the cultural resources report were considered, where available. Among the considerations for architectural resources was the physical integrity of a structure and its ability to retain original architectural elements. If upon evaluation of this information, the potential eligibility for CRHR listing was unclear, the resource was considered eligible for the CRHR. Isolated occurrences were assumed to be ineligible, as resources found in isolation typically do not meet the criteria for listing.

Key:

CRHR California Register of Historic Resources

N/A not applicable

NRHP National Register of Historic Places

CA-SHA-3373H (Landfill Mining Complex). The archaeological resource CA-SHA-3373H (Landfill Mining Complex) was recorded in 2002. The Landfill Mining Complex is a collection of historic mining sites and features that dates to ca. 1850s to 1940s, placing it within the American Period (A.D. 1848 to 1940). This archaeological resource consists of several previously recorded historic mining sites, along with new mining features, and was identified as part of a survey of a parcel owned by Shasta County for a proposed landfill. It is possible that the mining sites and features of the Landfill Mining Complex are associated with the former community of Piety Hill, a 19th century mining town. The northeastern edge of the Landfill Mining Complex is located within the AII for the proposed project. The cultural resources specialists did not identify any additional features of, or associated with, this archaeological resource during their 2015 survey. The Landfill Mining Complex was previously recommended not eligible for

listing in the NRHP. The applicant has indicated that the NRHP evaluation also applies to the eligibility on the State Register. Therefore, the recommendation from the cultural resources specialists is that the Landfill Mining Complex is not eligible for listing on the CRHR. No records of State Historic Preservation Office comment regarding this site were available for this evaluation. Therefore, given the previous recommendation of not eligible, for this evaluation under CEQA, the Landfill Mining Complex is not considered a historical resource, as it is assumed not eligible for the CRHR.

CA-SHA-3382H (Happy Valley Ditch). The previously recorded resource Happy Valley Ditch, also known as the Happy Valley Irrigation Canal, is a historic water conveyance system that dates to ca. 1853 to 1880. This site consists of a U-shaped earthen ditch (culverted in some locations where it passes beneath existing roads) that extends from Igo to Olinda in Shasta County. It is approximately 2 to 3 feet wide and 3 to 4 feet deep and may have been part of the Dry Creek Tunnel and Fluming Company's Hardscrabble Mine ditch, forming a larger water conveyance system that served the local community of Piety Hill and nearby mining operations from 1853 to 1880. Following closure of the Hardscrabble Mine, the ditch was extended to the communities of Cloverdale and Olinda to supply water to local orchards and farms. In 1905, the Happy Valley Land and Water Company extended its delivery capacity, but the ditch fell into disuse after World War II, with the departure of many local farmers to larger communities.

Segments of Happy Valley Ditch were previously recommended not eligible for listing in the NRHP. The survey considered the portion of Happy Valley Ditch that crosses the proposed project alignment and determined that the integrity of the ditch has been compromised as a result of construction of Cloverdale Road, fencing of parcels along the ditch, and previous installation of utilities. Additionally, construction on adjacent private property has destroyed some parts of the ditch, making it nonfunctional as a water conveyance system. Therefore, the cultural resources specialists recommended the portions of Happy Valley Ditch that cross the proposed project alignment as not eligible for listing on the NRHP. The applicant has indicated that the NRHP evaluation also applies to the eligibility on the State Register. Therefore, the recommendation from the cultural resources specialists is that the portions of the Happy Valley Ditch that cross the proposed project alignment also are not eligible for listing on the CRHR. State Historic Preservation Office comments regarding this site are pending for this evaluation. Therefore, given the current recommendation as ineligible by the cultural resources specialists and the ineligibility of other segments, for this evaluation under CEQA, Happy Valley Ditch is not considered a historical resource for segments located within the ADI, as it is assumed not eligible for the CRHR.

Piety Hill Historical Marker. – The Piety Hill site was registered on May 6, 1969. It is located in Shasta County. A marker notes the site of the community, which was established in 1849 (State of California 2017g, 2017h; Historical Marker Database 2017). This resource has been identified previously and is noted as a point of interest in current California records (State of California 2017g). The marker itself was constructed in 2010 (Historical Marker Database 2017). Only historical points of interest designated after 1997 and recommended by the State Historical Resources Commission are listed in the California Register (State of California 2017g); therefore, this marker is not listed in the California Register and for the purposes of this evaluation, is not considered a historical resource.

Igo Inn. The Igo Inn, formerly the Independent Order of Odd Fellows Welcome Lodge No. 209, is a two-story meeting hall, fronting on South Fork Road, with a single-story dance hall addition at the rear of the building. This resource is located within the AII; its address is 13976 South Fork Road, Igo, California. The building consists of wooden horizontal sidings on top of a coursed stone foundation. The two-story meeting hall portion of the building was either constructed at this location in 1885 or was moved there from the former nearby community of Piety Hill in 1885. The dance hall addition was constructed in the 1920s. The building was abandoned after 1935 and was eventually deemed unsafe for public use until remodeling was conducted in the 1990s to restore it.

The eligibility of the Igo Inn for listing in the CRHR is unknown. This resource was not identified as part of the records review conducted for the proposed project; it was identified in the field by the cultural resources specialists. They did not make a recommendation regarding the eligibility of this historic building for listing in the CRHR. However, they did note a lack of integrity due to remodeling conducted in the 1990s, as well as that the building does not appear to be representative of a particular architectural style, is not associated with any specific architects or builders, and is unlikely to yield any information significant to the history of Igo or to the American Period of history in the area. However, insufficient information is available to definitively recommend this resource's eligibility status for listing on the CRHR. Therefore, for this evaluation under CEQA, the Igo Inn is considered a historical resource, as it is assumed eligible for the CRHR.

Cloverdale Cemetery. The Cloverdale Cemetery, also known as Oak Cemetery or Happy Valley Cemetery, is a historic cemetery that was opened in 1892. It is still in use today and fronts the west side of Oak Street. The cemetery is located within the AII. It has not been evaluated for listing in the CRHR. However, this resource was noted as important to the Wintu Tribe of Northern California (Wintu). Therefore, it is considered a tribal cultural resource for this evaluation and is discussed in Section 5.18, "Tribal Cultural Resources." For this reason, it is not discussed separately as a historical resource with regard to impacts in this section.

Isolated Occurrences. The cultural resources specialists identified 10 isolated occurrences that are located within the ADI, as follows:

- Four miscellaneous refuse deposits;
- Three miscellaneous water conveyance structures or features;
- Two foundations for unknown aboveground features; and
- One national survey benchmark.

The cultural resources specialists recommended that the isolated occurrences are unlikely to yield additional information beyond the information recorded during the survey. Additionally, the cultural resources investigation recommended that the 10 isolated occurrences are not unique archaeological resources as defined by CEQA. As isolated occurrences (or isolates) typically are not eligible for the CRHR, for this evaluation under CEQA, these are not considered historical resources or unique archaeological resources.

5.5.2 Regulatory Setting

Federal

No federal regulations related to cultural resources are applicable to the proposed project because no federal lands, monies, or decisions are required for the proposed project.

State

California Register of Historical Resources. The CRHR is the authoritative guide to the state's significant historical and archaeological resources. It is a program designed by the California State Historical Resources Commission for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The CRHR encourages public recognition and protection of resources of architectural, historical, archeological, and cultural significance; identifies historical resources for state and local planning purposes; determines eligibility for state historic preservation grant funding; and affords certain protections under CEQA (PRC § 5024.1(a)) (State of California 2017e).

To be considered significant at the local, state, or national level, a historical resource must meet one or more of the following four criteria:

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States (Criterion 1).
2. Associated with the lives of persons important to local, California, or national history (Criterion 2).
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values (Criterion 3).
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation (Criterion 4).

The CRHR includes resources listed in the NRHP and resources that are designated California Historical Landmarks (California Historical Landmarks #770 and above are automatically listed in the CRHR) or California Points of Historical Interest (California Points of Historical Interest designated after 1997 and recommended by the California State Historical Resources Commission) (State of California 2017f; California Office of Historic Preservation 1998).

California Environmental Quality Act and Guidelines. Section 21084.1 of the PRC establishes that a substantial adverse effect on a historical resource may have a significant effect on the environment. Under CEQA Guidelines section 15064.5, a historical resource includes:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR;
2. A resource included in a local register of historical resources; and
3. Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or that is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be "historically significant" if it meets the following criteria for listing in the CRHR:
 - a. It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
 - b. It is associated with the lives of persons who are important in our past.
 - c. It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
 - d. It has yielded, or may be likely to yield, information important in prehistory or history.

Section 15064.5(b)(1) of the CEQA Guidelines explains what constitutes a substantial adverse change in the significance of an historical resource. This may involve physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings, such that the significance of the resource would be materially impaired.

Under CEQA Guidelines section 15064.5(c), if an archaeological resource does not meet the criteria for a historical resource, but does meet the definition of a unique archaeological resource in PRC Section 21083.2, the site shall be protected per the provisions of PRC Section 21083.2. A unique archaeological resource is defined as meeting one of the following conditions:

1. Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

However, if the archaeological resource is neither a unique archaeological nor a historical resource, then the effects of a project on those resources shall not be considered a significant effect on the environment.

Local

Shasta County Objective HER-1. The Shasta County General Plan's Objective HER-1 provides for the protection of significant prehistoric and historic cultural resources (Shasta County 2004). The Shasta County General Plan identifies 51 Shasta County heritage resources, including resources listed in the NRHP, the California Historical Landmarks program, or the California Points of Interest program. The Shasta County General Plan also notes that in addition to these 51 Shasta County heritage resources, there are approximately 500 additional known archaeological sites or areas of archaeological significance in Shasta County. These additional known archaeological sites or areas of archaeological significance in Shasta County are not included in the list of Shasta County heritage resources in order to protect these resources, but their information is on file with the Cultural Resources Section of the California Department of Parks and Recreation (Shasta County 2004).

Shasta County Policy HER-1a. The Shasta County General Plan's Policy HER-1a specifies that "development projects in areas of known heritage value shall be designed to minimize degradation of these resources. Where conflicts are unavoidable, mitigation measures which reduce such impacts shall be implemented. Possible mitigation measures may include clustering, buffer or nondisturbance (*sic*) zones, and building siting requirements." (Shasta County 2004)

5.5.3 Environmental Impacts and Mitigation Measures

The impact analysis below identifies and describes the proposed project's potential impacts on cultural resources within the proposed project area. Potential impacts were evaluated according to the significance criteria presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a more detailed evaluation.

Applicant Proposed Measures

The applicant would implement the following applicant-proposed measures (APMs) to minimize or avoid impacts on cultural resources that are historical resources and/or unique archaeological resources. A list of all project APMs is included in Table 4-2 in Chapter 4, "Project Description." **APM CR-1** and **APM CR-2** are not discussed in the impact analysis because these measures have already been incorporated into the project design, and they are categorized as project design features in Chapter 4. The resources addressed by these measures (the Happy Valley Ditch, Cloverdale Cemetery, and Igo Inn), however, are

within the AII. For this reason, they are still considered in this evaluationMitigation Measure (MM) GEN-1 requires implementation of these APMs to mitigate impacts to cultural resources, and the impact analysis in this section applies to these APMs to reduce impacts.

APM CR-3: In the event that undiscovered historical or archaeological resources are encountered by construction personnel, all ground-disturbing activities within 30.5 m (100.0 feet) of the find in non-urban areas and 15.2 m (50.0 feet) in urban areas will be temporarily halted or diverted and a qualified archaeologist will be contacted to assess the discovery.

APM CR-4: If human remains are discovered or recognized in any location, construction personnel will suspend further excavation or disturbance of the site and any nearby areas reasonably suspected to overlie adjacent human remains until the County coroner has been informed and has determined that no investigation of the cause of death is required.

Significance Criteria

Table 5.5-2 describes the significance criteria from Appendix G of the CEQA Guidelines' cultural resources section, which the CPUC used to evaluate the environmental impacts of the proposed project.

Table 5.5-2 Cultural Resources Checklist

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

Items (a) and (b) of the cultural resources checklist are considered together for the purposes of this evaluation due the potential for similar impacts for resources that are archaeological in nature.

a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

and

b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

As outlined in Table 5.5-1, one historical resource² is present within the API, as part of the AII. For the purposes of this evaluation, the Igo Inn is considered a historical resource. No unique archaeological resources have been identified for the proposed project area.

² Please note, the Cloverdale Cemetery is discussed as a tribal cultural resource. As this resource has not been evaluated for its eligibility as a historical resource, it is being treated as a Tribal Cultural Resource per the lead agency's discretion for this analysis.

The Igo Inn is located along the northern side of Place Road near the intersection of County Route A16. The proposed project would be installed on the southern (opposite) side of the existing roadway from the Igo Inn. As this resource is located outside the ADI, it would not be subject to direct disturbance. However, it may be subject to visual and auditory impacts associated with construction activities and personnel that would be near its location. As the roadway acts as a buffer, the proposed project would not likely cause vibratory impacts to the structure. The visual and auditory impacts would not constitute a substantial adverse change, as they would not involve physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings. The impacts also would be temporary. For this reason, the impacts associated with the Igo Inn would be less than significant. Operation and maintenance activities would occur within areas already disturbed during construction of the proposed project. Additionally, no ground-disturbing activities in previously undisturbed areas would occur during operation and maintenance. Therefore, there would be no potential for the proposed project to impact historical resources during operation and maintenance.

While only one of the resources (previously documented or newly identified) noted in Table 5.5-1 is considered a historical resource pursuant to §15064.5, unanticipated cultural resources discoveries may occur, including those that may be associated with the Igo Inn. Unanticipated discoveries also may include the potential for unique archaeological resources.

MM CUL-1 requires workers to be given an overview of the potential types of cultural resources that may be uncovered during construction. **MM CUL-2** requires monitoring for cultural resources in the vicinity of known archaeological sites (see Table 5.5-1) in order to address the potential for additional cultural resources. **MM CUL-3** supplements **APM CR-3** by providing additional details outlining the procedures that TDS would follow in the event of an unanticipated find. **MM CUL-4** would ensure that construction activities would not occur within unsurveyed areas. Impacts on unanticipated finds that may be eligible for listing in the CRHR (and thereby would be historical resources and/or unique archaeological resources) would be less than significant with the implementation of these mitigation measures.

Significance: Less than significant with mitigation.

c. Disturb any human remains, including those interred outside of formal cemeteries?

The new high-speed internet broadband fiber optic transmission cable component of the proposed project would be installed underground within 50 feet of the eastern side of the Cloverdale Cemetery (see Sections 5.1, “Aesthetics” and 5.18, “Tribal Cultural Resources”). The proposed project alignment would avoid any direct impact within the cemetery. Therefore, the proposed project is not likely to uncover human remains associated with the cemetery.

However, in the event that unknown human remains are encountered during construction of the proposed project, **APM CR-4** would require construction activities to halt and the County Coroner to be contacted. Mitigation measures are needed to supplement this APM.

MM CUL-1 requires workers to be given an overview of the potential for encountering human remains during construction of the proposed project, including any that may be located in the vicinity of the Cloverdale Cemetery. **MM CUL-2** requires monitoring for cultural resources by a CPUC-approved archaeologist with experience in identifying human remains in the vicinity of the Cloverdale Cemetery. **MM CUL-5** also supplements **APM CR-4** by providing further details outlining the procedures that TDS would follow for treatment of any human remains discovered or recognized during construction of the proposed project, including in the vicinity of the Cloverdale Cemetery.

Impacts on human remains, including those located within the Cloverdale Cemetery; in areas outside of, but in association with, the Cloverdale Cemetery; and those interred outside of formal cemeteries, would be reduced with the implementation of mitigation measures to less than significant. Section 5.18, "Tribal Cultural Resources" discusses the Cloverdale Cemetery as a tribal cultural resource.

Significance: Less than significant with mitigation.

Mitigation Measures

MM CUL-1: Worker Education Program. TDS shall design and implement a Worker Education Program that requires training for all project personnel, including construction supervisors and field personnel, who may encounter and/or alter previously identified, and as yet unidentified, archaeological and/or architectural resources, including any that may be determined historical resources or unique archaeological resources. All construction workers shall receive this Worker Education Program training before engaging in field operations.

The Worker Education Program shall include training that covers, at a minimum, the following topics:

- A review of the prehistory, Native American ethnography/ethnohistory, and history of the proposed project area;
- A review of the types of prehistoric, ethnographic/ethnohistoric, and historic archaeological and architectural resources, including artifacts, features, and/or human remains, that could be identified in the proposed project area. These may include, but are not limited to, those that could be associated with historic archaeological site CA-SHA-3373H (Landfill Mining Complex), the former community of Piety Hill, historic archaeological site CA-SHA-3382H (Happy Valley Ditch), the historic Igo Inn, or the historic Cloverdale Cemetery (also known as Oak Cemetery or Happy Valley Cemetery), which is still in use today.
- A review of applicable local, state, and federal ordinances, laws, and regulations pertaining to archaeological resources, architectural or other built resources (including prehistoric and ethnographic/ethnohistoric Native American and historic [Euro-American] archaeological and architectural or other built resources), human remains, tribal cultural resources, cultural resources management, and historic preservation;
- A discussion of procedures to be followed in the event that unanticipated cultural resources or human remains are discovered during implementation of the proposed project;
- A discussion of disciplinary and other actions that could be taken against persons violating historic preservation laws and TDS policies; and
- A statement by the construction company or applicable employer agreeing to abide by the Worker Education Program, TDS policies and procedures, and other applicable local, state, and federal ordinances, laws, and regulations.

A copy of the materials included as part of the worker education program will be provided to Native American tribes participating in the AB 52 consultation with the CPUC, if requested.

This mitigation measure shall be coordinated with **MM Geology and Soils (GEO)-1**.

MM CUL-2: Cultural Resources Monitoring. For the purpose of this mitigation measure, "cultural resources" refers to archaeological resources (prehistoric and historic, known or previously unidentified); historic architectural resources (structures, buildings, and objects); and resources associated with California Native American tribes (sub-surface or aboveground). Cultural resources is a general term and does not account for significance (i.e., a historical resource, unique archaeological resource, or tribal

cultural resource). TDS shall ensure that a CPUC-approved archaeologist that meets the Secretary of Interior's Professional Qualifications Standards for archaeology and has specific experience in the identification of human remains conducts monitoring with regard to cultural resources during construction of the proposed project. The qualified archaeologist shall be approved prior to the start of construction by the CPUC Project Manager (PM).

The CPUC-approved archaeologist shall prepare a Monitoring and Treatment Plan for Cultural Resources. Prior to commencement of construction, TDS shall submit the Monitoring and Treatment Plan to the CPUC for review and approval. This plan will include a description of when the Wintu will be notified and when they will conduct monitoring of the construction activities (see **MM TCR-2**). The CPUC PM will approve or request changes to the Monitoring and Treatment Plan for Cultural Resources within seven days of submittal by TDS. Once the CPUC PM approves the Monitoring and Treatment Plan for Cultural Resources, TDS shall ensure that the CPUC-approved archaeologist implements the approved plan. A courtesy copy will be provided to the Wintu Tribe.

The CPUC-approved archaeologist shall monitor the effects of all construction-related work conducted within locations with the potential to contain previously unidentified cultural resources and within 200 feet of the known archaeological resources according to the Monitoring and Treatment Plan for Cultural Resources.

TDS, in consultation with the CPUC-approved archaeologist, shall implement the following procedures as part of the monitoring for cultural resources:

- A CPUC-approved archaeologist shall conduct monitoring during construction in locations within the API with the potential to contain previously unidentified cultural resources, as identified in the Monitoring and Treatment Plan.
 - These locations shall include areas within 200 feet of known archaeological resources, consisting of sites CA-SHA-3373H and CA-SHA-3382H; within 200 feet of known historic architectural resources, consisting of the Igo Inn and the Cloverdale Cemetery; and within 200 feet of the Piety Hill historical marker (State of California 2017g, 2017h; Historical Marker Database 2017).
- TDS shall erect protective barriers with signage identifying any exclusion area due to the presence of known cultural resources (if applicable) as an "environmentally sensitive area."

The CPUC-approved archaeologist shall have the authority to implement the procedures in **MM CUL-3** if an unanticipated cultural resource is discovered at any time and in any location during construction of the proposed project, including in the vicinity of any known archaeological resources, known historic architectural resources, and other resources.

At the conclusion of monitoring for cultural resources, TDS shall submit a Monitoring Report documenting the results of the monitoring activities to the CPUC for review and approval. The report shall be prepared by the CPUC-approved archaeologist. The CPUC PM will approve or request changes to the report within seven days of submittal by TDS.

MM CUL-3: Treatment for Unanticipated Cultural Resources Discoveries. For the purpose of this mitigation measure, "cultural resources" has the same definition as that included in MM CUL-2. TDS shall immediately halt and exclude construction work within 100 feet of the discovery of an unanticipated cultural resource, and the CPUC-approved archaeologist shall inspect the unanticipated resource. At the request of the CPUC-approved archaeologist, TDS shall install protective barriers with signage identifying the exclusion area as an "environmentally sensitive area."

Per the CPUC-approved archaeologist's discretion and knowledge of potential resources types, if the resource has the potential to be important to a Native American tribe, **MM TCR-2** will be followed.

Avoidance: If the CPUC-approved archaeologist determines that the resource can be avoided, and no impacts would occur, TDS shall notify the CPUC of the unanticipated resource within 24 hours of its discovery and confirm that it can be avoided. As part of the notification, the resource will be described with sufficient detail to allow the CPUC an understanding of how the resource will be avoided and how no impacts would occur. TDS may proceed with construction work in the area of discovery.

TDS shall ensure that the CPUC-approved archaeologist records the unanticipated cultural resource on the appropriate California Department of Parks and Recreation (DPR) 523 forms. TDS shall submit the completed DPR 523 forms to the CPUC for review and approval within 48 hours of the find. The CPUC PM will approve or request changes to the DPR 523 forms within seven days of submittal by TDS. Once approved, TDS shall file the DPR 523 forms with the NEIC and shall provide a copy of the DPR 523 forms to the CPUC for its records.

Evaluation: If TDS determines that it cannot avoid the unanticipated resource, the CPUC-approved archaeologist shall evaluate the resource to determine if there is a potential for it to be a historical resource (CEQA Guidelines section 15064.5(a)) or a unique archaeological resource (PRC 21083.2(g)).

The following procedures will be implemented, if the resource cannot be avoided:

- At the discretion of the CPUC-approved archaeologist, if the resource is not potentially a historical or unique archaeological resource, TDS may proceed with construction upon notification to the CPUC within 24 hours via email of the find and proper recordation on the appropriate DPR 523 forms. TDS may proceed with construction work in the area of discovery.

TDS shall submit the DPR 523 forms to the CPUC for review and approval within 48 hours of the find. The CPUC PM will approve or request changes to the DPR 523 forms within seven days of submittal by TDS. Once approved, TDS shall file the completed DPR 523 forms with the NEIC and shall provide a copy of the DPR 523 forms to the CPUC for its records.

- If the CPUC-approved archaeologist determines that the resource is potentially a historical or unique archaeological resource, the CPUC-approved archaeologist shall prepare an Evaluation Plan that details the procedures to be used to determine whether the resource is a historical or unique archaeological resource. The CPUC PM will approve or request changes to the Evaluation Plan within three days of submittal by TDS.
- Once the CPUC PM has approved the Evaluation Plan, TDS shall ensure that the CPUC-approved archaeologist implements the approved Evaluation Plan.

Evaluation Plan Implementation: When fieldwork implemented as part of the approved Evaluation Plan is completed, the CPUC-approved archaeologist shall prepare an Evaluation Memo that describes the results of the evaluation. TDS shall submit the Evaluation Memo to the CPUC for review and approval. The CPUC PM will approve or request changes to the Evaluation Memo within seven days of submittal by TDS.

After implementation of the Evaluation Plan, TDS may proceed with work in the area of the discovery, if the following occurs:

- The CPUC-approved archaeologist determines that the unanticipated resource is not a historical or unique archaeological resource; and
- The CPUC PM concurs with that recommendation.

Data Recovery Plan: If, after implementation of the Evaluation Plan, the CPUC-approved archaeologist recommends that the unanticipated find is a historical or unique archaeological resource, TDS shall ensure that the CPUC-approved archaeologist prepares a Data Recovery Plan that would reduce impacts on the potential historical or unique archaeological resource to less than significant.

TDS shall ensure that the Data Recovery Plan is prepared by the CPUC-approved archaeologist in accordance with CEQA Guidelines section 15126.4(b)(3)(C) and PRC section 21083.2 and describes methods that will yield relevant information. TDS shall submit the Data Recovery Plan to the CPUC for review and approval. The CPUC PM will approve or request changes to the Data Recovery Plan within seven days of submittal by TDS. Once the CPUC PM approves the Data Recovery Plan, TDS shall ensure that the CPUC-approved archaeologist implements the approved plan.

When fieldwork implemented as part of the approved Data Recovery Plan is completed, the CPUC-approved archaeologist shall prepare a Data Recovery Field Memo that briefly describes the results of the data and materials recovery. TDS shall submit the Data Recovery Field Memo to the CPUC for review and approval. The CPUC PM will approve or request changes to the Data Recovery Field Memo within seven days of submittal by TDS. Once the CPUC PM has approved the Data Recovery Field Memo, TDS may proceed with construction work in the area of the discovery.

TDS shall ensure that the CPUC-approved archaeologist prepares a more detailed Data Recovery Report within 90 days of the CPUC's approval of the Data Recovery Field Memo. TDS shall also ensure that the Data Recovery Report includes a thorough discussion of the data recovery efforts, presents the conclusions drawn from the data recovery work, and indicates where materials associated with the data recovery will be curated; it shall also contain the appropriate completed California DPR 523 forms. TDS shall submit the Data Recovery Report to the CPUC for review and approval. Once the CPUC PM approves the Data Recovery Report, TDS shall file the Data Recovery Report and the appropriate completed California DPR 523 forms with the NEIC.

MM CUL-4: Conduct Class III cultural resources surveys for unsurveyed work areas. Prior to construction, TDS shall compare the limits of the proposed areas of disturbance (i.e., where surface disturbance and sub-surface activities will occur) to the portion of the proposed project area for which a Class III Cultural Resources Survey has been prepared (Howell and Copperstone 2017). TDS then shall verify that all proposed areas of disturbance for the proposed project have been surveyed at the Class III Cultural Resources Survey level. TDS shall provide this verification, consisting of a written statement and accompanying project maps, to the CPUC for review and approval. Notification also will be sent as a courtesy to the Wintu.

If the CPUC PM concurs that the 2014 Class III Cultural Resources Survey for the proposed project (Howell and Copperstone 2017) sufficiently covered the proposed areas of disturbance, TDS may commence construction work as follows:

- If no known resources are located in the areas of disturbance based on the 2014 Class III Cultural Resources Survey, construction-related work for the proposed project can proceed.
- If known resources or areas of potential archaeological sensitivity are located in the areas of disturbance based on the Class III Cultural Resources Survey, they must be monitored pursuant to MM CUL-2.
- Any unanticipated cultural resources that are discovered during construction work activities shall be subject to MM CUL-3.

If the 2014 Class III Cultural Resources Survey for the proposed project does not sufficiently cover the proposed areas of disturbance, TDS shall notify the CPUC of this determination. TDS shall ensure that a CPUC-approved archaeologist conducts a supplemental Class III Cultural Resources Survey of the unsurveyed areas, and TDS shall provide the report documenting the results of the supplemental Class III Cultural Resources Survey to the CPUC for review and approval. Any newly identified resources will be treated similarly to an unanticipated discovery. Those that are not historical resources or unique archaeological resources will be subject to monitoring, as noted in MM CUL-2; for those that may be historical resources or unique archaeological resources, the procedures identified in MM CUL-3 shall be followed. TDS shall not commence construction work until the CPUC PM reviews and approves the results, conclusions, and recommendations of the supplemental Class III Cultural Resources Survey. Copies of the documentation for these activities will be provided to the Wintu.

MM CUL-5: Treatment of Human Remains. In the event of the discovery or recognition of human remains during construction, including, but not limited to, in the vicinity of the Cloverdale Cemetery, the following steps shall be taken:

- TDS shall ensure that there is no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains while TDS, in consultation with the CPUC PM and the Wintu, contacts the Shasta County Coroner, and the coroner works to determine if the human remains are modern, historic, prehistoric, and/or Native American and to determine whether an investigation of the cause of death is required.
- Further, pursuant to California PRC Section 5097.98(b), TDS shall ensure that the area containing the discovered or recognized human remains is left in place and free from disturbance until the landowner or the person responsible for the excavation work makes a final decision as to the treatment and disposition of the human remains.
- For this proposed project, the CPUC considers “the site or any nearby area” to be the 100-foot exclusion area developed for the Cloverdale Cemetery and the 200-foot monitoring area for the Cloverdale Cemetery, within which cultural monitoring of the cemetery is being conducted pursuant to MM CUL-2/3.
- If the Shasta County Coroner determines the remains to be Native American, then the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons from which the NAHC believes the deceased to be the “most likely descendent.”
- The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work by which the human remains were discovered or recognized regarding means of treating or disposing of, with appropriate dignity, the human remains and associated grave goods as provided in California PRC Section 5097.98.

TDS shall notify the CPUC within 24 hours of receiving notification of the landowner’s, or the person responsible for the excavation work’s, decision for the final treatment or disposition of the human remains and associated grave goods.

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5.6 Energy

5.6.1 Environmental Setting

Electricity and Natural Gas

Electricity and gas services in Shasta County are provided by three primary regulated utilities:

- **Pacific Gas and Electric Company (PG&E):** PG&E provides electricity in the city of Anderson and unincorporated areas of the region. PG&E also provides natural gas service in northern and central California. All Shasta County customers have a choice of supplier for natural gas and thus may procure their gas from competing suppliers.
- **City of Shasta Lake:** The electric utility owned by the City of Shasta Lake provides services within the city limits and certain adjacent areas. The City also owns and operates two small solar installations, the largest being 10 kilowatts.
- **City of Redding:** The City of Redding owns its own utility through Redding Electric Utility, thereby allowing them to make deals with industry partners. Redding Electric Utility operates 50 percent green energy generated through hydroelectric, wind, and solar facilities. The City-owned electric utility is equipped to offer industrial rates 30 to 40 percent lower than investor-owned utilities in California, and 99.9997 percent reliability. (EDC 2018)

According to the California Energy Commission (CEC), Shasta County's electricity consumption in 2017 was 1,604 gigawatt-hours, with approximately 49 percent consumption from non-residential users. In contrast, non-residential customers used approximately 46 percent of the natural gas consumption in Shasta County (CEC 2018).

Renewable Energy

Important renewable energy sources in Shasta County include solar, hydroelectricity, biomass, and cogeneration. Hydroelectricity is a renewable energy technology that uses flowing water to spin a turbine connected to a generator that produces electricity. Biomass contains stored energy from the sun that, when burned, releases as heat. Many different types of biomass such as wood chips and corn can be utilized to produce electricity. Cogeneration is the combination use of a heat engine or power station to generate electricity and useful heat at the same time. Shasta County also has potential for development of wind energy.

Solar. The sun is an abundant energy source in most of Shasta County. Solar energy is used directly for space and water heating and for industrial process heating. The high summer temperatures in the upper Sacramento Valley result in a high seasonal peak demand for electricity for space cooling and refrigeration.

Hydroelectricity. Existing U.S. Bureau of Reclamation electrical generation facilities at Shasta Lake, Keswick, and Whiskeytown Reservoirs provide the bulk of hydroelectricity produced in the county. PG&E produces a significant amount of hydroelectric power from the Pit River and Battle Creek watersheds. Shasta County has utilized the most efficient sites for hydroelectric projects; hence, future hydroelectric projects appear to be limited.

Biomass. The use of biomass for direct heating and electrical generation is important in Shasta County. Biomass primarily involves the use of wood for residential space heating and waste wood and other wood

products for electrical generation.

Cogeneration. Several wood products firms in Anderson, Burney, and Redding utilize cogeneration. The use of cogeneration technology and processes does not allow these firms to be energy self-sufficient; however, the system can generate enough energy to supply a major portion of plant needs during peak demand periods.

Transportation-related Energy

The majority of Shasta County relies on gasoline- and diesel-powered vehicles to transport people and goods. The low-density residential development in the South Central Region makes the development of alternative transportation modes such as public transit, bicycles, and walking much more difficult and expensive than in other parts of the state. Shasta County has documented that a combination of low-density residential development and continued reliance on gasoline-powered vehicles for transportation results in increased energy use. Thus, residential pockets of the South Central Region are continuing to develop in a low-density urban residential pattern. (Shasta County 2004)

5.6.2 Regulatory Setting

Federal

Federal Energy Regulatory Commission. The Federal Energy Regulatory Commission (FERC) is an independent agency that regulates the transmission and sales of electricity, natural gas, and oil in interstate commerce. FERC also licenses hydroelectric projects and regulates the sale of interstate transmission.

Federal Energy Policy and Conservation Act. In 1975, Congress enacted the Federal Energy Policy and Conservation Act to serve the nation's energy demands and promote feasibly attainable conservation methods. This act established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration (NHTSA) is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards were approved for model year 2017 passenger cars and light trucks at 54.5 miles per gallon. Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

Energy Policy Act of 2005. The Energy Policy Act of 2005 established the first renewable fuel volume mandate in the United States. The original Renewable Fuel Standard (RFS) program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. The U.S. Environmental Protection Agency (EPA) is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel.

Energy Independence and Security Act of 2007. In addition to setting increased Corporate Average Fuel Economy standards for motor vehicles, the Energy Independence and Security Act of 2007 (EISA) includes other provisions related to energy efficiency, including RFS (Section 202), appliance and lighting efficiency standards (Sections 301–325) and building energy efficiency standards (Sections 411–441).

Under the EISA, the RFS program was expanded in several key ways that laid the foundation for achieving significant reductions of greenhouse gas (GHG) emissions from the use of renewable fuels, reducing imported petroleum, and encouraging the development and expansion of the United States' renewable fuels sector. The updated program is referred to as "RFS2," and it increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion

gallons by 2022, as well as expanded it to include diesel fuel. RFS2 also established new categories of renewable fuel and set separate volume requirements for each one. Furthermore, it required the EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Heavy-Duty Truck and Bus Standards. In 2011, the EPA and NHTSA announced a program to reduce GHG emissions and improve the fuel efficiency of heavy-duty trucks and buses. The program includes standards for fuel consumption and emissions for combination tractors and vocational vehicles, which include all other heavy-duty vehicles such as buses, refuse trucks, and concrete mixers; nitrous oxide and methane emissions standards applicable to all heavy-duty engines, pick-ups, and vans; and standards for leakage of hydrofluorocarbon-containing refrigerants from air conditioning systems.

Light-Duty Vehicle Standards. In collaboration with the NHTSA, the EPA finalized the program to reduce GHG emissions and improve fuel economy for light-duty vehicles (model years [MY] 2012 to 2016) in May 2010. The program was extended in 2012 to set more stringent standards for MY 2017 to 2025 light-duty vehicles. The revised standards are projected to reduce GHGs by approximately 2 billion metric tons and save 4 billion barrels of oil over the lifetime of MY 2017 to 2025 vehicles. Standards include fuel economy targets and improvements in vehicle technologies, including improved vehicle aerodynamics, reduced vehicle weight, lower tire rolling resistance, and expanded production of electric and hybrid vehicles.

State

Warren-Alquist Energy Resources Conservation and Development Act 1994 as amended. The Warren-Alquist Act gives statutory authority to the CEC as California's principle energy policy and planning organization. The CEC regulates energy resources by encouraging and coordinating research into energy supply and demand problems to reduce the rate of growth of energy consumption.

Assembly Bill 1493 – Pavley. In 2002, the California legislature adopted regulations to reduce GHG emissions in the transportation sector, the state's largest source of GHG emissions. In September 2004, pursuant to Assembly Bill (AB) 1493, the California Air Resources Board (CARB) approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. In September 2009, CARB adopted amendments to the Pavley regulations to reduce GHG from 2009 to 2016. CARB, the EPA, and the NHTSA have coordinated efforts to develop fuel economy and GHG standards for model 2017–2025 vehicles.

California Governor's Executive Order B-16-2012. Executive Order B-16-2012 (March 2012) specifically focuses on reducing emissions from California's vehicle fleet and directs that California achieve a 2050 target for GHG emission reductions from the transportation sector equaling 80 percent less than 1990 levels. This would be accomplished by achieving benchmarks by 2020 and 2025 for advancements of zero-emission vehicle infrastructure and technology advancement.

California Air Resources Board Heavy-Duty On-Road and Off-Road Vehicle Regulations. In 2004, CARB adopted the Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling to reduce public exposure to diesel particulate matter emissions (Title 13 California Code of Regulations Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

In addition to limiting exhaust from idling trucks, CARB also promulgated emission standards for off-road diesel construction equipment greater than 25 horsepower such as bulldozers, loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-Road Diesel-Fueled Fleets regulation adopted by CARB on July 26, 2007, aims to reduce emissions by encouraging installation of diesel soot filters and retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 California Code of Regulations Section 2449). The compliance schedule requires full implementation by 2023 in all equipment for large and medium fleets and by 2028 for small fleets. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation has shown an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines.

Senate Bill 1078, Senate Bill 107, and Executive Order S-14-08. The State of California has adopted standards to increase the percentage that retail sellers of electricity, including investor-owned utilities and community choice aggregators, must provide from renewable sources. The standards are referred to as the RPS and require 33 percent by 2020 and 50 percent by 2040.

Senate Bill X1 2. On April 12, 2011, Governor Jerry Brown signed Senate Bill (SB) X1 2 in the First Extraordinary Session, which expands California's RPS by establishing a goal of 20 percent renewable energy of the total electricity sold to retail customers in California per year by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020, and in subsequent years. Under this bill, a renewable electrical generation facility is one that uses one or more of the following sources: biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements pertinent to its location. In addition to the retail sellers covered by SB 107, SB X1 2 adds local publicly owned electric utilities to the RPS. The statute also requires that the governing boards for local publicly owned electric utilities establish the same targets, and the governing boards would be responsible for ensuring compliance with these targets. The California Public Utilities Commission (CPUC) is responsible for enforcement of the RPS for retail sellers, while the CEC and CARB enforce the requirements for local publicly owned electric utilities.

Senate Bill 1368. On September 29, 2006, Governor Arnold Schwarzenegger signed into law SB 1368. The law limits long-term investments in base load generation by the state's utilities to power plants that meet an emissions performance standard jointly established by the CEC and the CPUC. The CEC has designed the following regulations:

- Establish a standard for base load generation owned by, or under long-term contract to, publicly owned utilities of 1,100 pounds of carbon dioxide per megawatt-hour. This will encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of GHGs.
- Require posting of notices of public deliberations by publicly owned utilities on long-term investments on the CEC website. This will facilitate public awareness of utility efforts to meet customer needs for energy over the long term while meeting the state's standards for environmental impact.
- Establish a public process for determining the compliance of proposed investments with the emissions performance standard.

Assembly Bill 32. AB 32, also known as the California Global Warming Solutions Act of 2006, was established to mandate the quantification and reduction of GHGs to 1990 levels by the year 2020. The law establishes periodic targets for reductions and requires certain facilities to report emissions of GHGs

annually. The legislation authorizes CARB to reduce emissions from certain sectors that contribute the most to statewide emissions of GHGs.

Assembly Bill 32 Scoping Plan. The AB 32 Scoping Plan identifies the strategies for achieving the maximum technologically feasible and cost-effective GHG reductions by 2020, and for maintaining and continuing reductions beyond 2020. The scoping plan includes a range of GHG emission reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as cap and trade, and a cost of implementation fee to fund the program. The initial scoping plan was approved at the CARB hearing on December 12, 2008. CARB approved the First Update to the Scoping Plan in May 2014.

Senate Bill 375 – Sustainable Communities Strategy. In 2008, SB 375 was adopted to achieve the GHG reduction targets established in the Climate Change Scoping Plan for the transportation sector through local land use decisions that affect travel behavior. Pertinent to this IS/MND, SB 375 requires CARB to set regional targets for GHG emission reductions from passenger vehicles and light duty trucks.

Local

Shasta County General Plan. The study area for the proposed project is located within the area covered by the Shasta County General Plan (SCGP) and, therefore, would be subject to applicable policies and measures of the SCGP. The Energy Element of the SCGP includes policies related to energy that apply to the proposed project, as described below. The Circulation Element of the SCGP includes a general provision related to energy that applies to the proposed project.

Chapter 6.4 Energy Element

The SCGP Energy Element has four primary objectives: (1) promoting energy savings; (2) increasing utilization of renewable energy resources; (3) promoting energy education and information to the public; and (4) conserving nonrenewable energy resources, specifically raw materials, transportation fuels, and resource land areas.

Policies

E-f. Recycling and integrated waste management goals that are designed to promote energy efficiency shall be encouraged and promoted. .

E-k. Encourage and promote increased telecommunication activities for both private and public sector employees in order to help decrease energy use and reduce air quality impacts.

Chapter 7.4 Circulation Element

General Provision

The use of the circulation system is dominated by motor vehicles that consume fossil fuels. The direct costs of relying on automobiles are still relatively inexpensive. The low-density land uses limit options to the automobile rather than other transportation modes.

Regional Transportation Plan and Sustainable Communities Strategy

In October 2018, the Shasta Regional Transportation Agency adopted the most recent Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS), as required by SB 375. The RTP/SCS strives to reduce air emissions from passenger vehicle and light-duty truck travel by better coordinating transportation expenditures with forecasted development patterns and, if feasible, help meet CARB GHG targets for the region. In particular, the 2018 RTP/SCS has identified the following measures (at minimum) that could be implemented to reduce short-term emissions during construction of future transportation improvement and land use pattern projects (although the proposed project is not a

transportation or land use project, it would involve similar construction activities, vehicles, and equipment):

- Use of diesel construction equipment that meets CARB's Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and complies with the State Off-Road Regulation;
- Use of on-road heavy-duty trucks that meet CARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- Use of alternatively fueled construction equipment on site where feasible, such as compressed natural gas, liquefied natural gas, propane, or biodiesel, in place of diesel-powered equipment for 15 percent of the fleet; and
- Use of materials sourced from local suppliers. (SRTA 2018)

5.6.3 Environmental Impacts and Mitigation Measures

This section describes the methodology used in conducting the California Environmental Quality Act (CEQA) impact analysis for energy resources for the proposed project; the thresholds of significance used in assessing impacts on energy resources; and the assessment of impacts on energy resources, including relevant mitigation measures.

Methodology

This analysis assesses the incremental energy consumption due to construction and operation and maintenance of 15.3 miles of shielded fiber-optic telecommunications cable. Construction activities related to the proposed project would consume energy through the operation of off-road equipment, trucks, and worker vehicles. Maintenance activities would consume energy through the use of light-duty vehicles for routine maintenance inspections. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a more detailed evaluation. Energy consumption anticipated to occur from operation of the proposed project would be negligible, primarily resulting from occasional truck trips for maintenance, connecting or disconnecting customers, and inspecting or potentially repairing equipment. Fuel use from these vehicle trips would represent an insignificant portion of daily mobile source consumption in Shasta County.

Energy consumption from the proposed project was estimated using commonly accepted techniques. Construction equipment fuel consumption calculations were based on the equipment lists generated by the applicant using the California Emissions Estimator Model (CalEEMod) default values and input from the project applicant (horsepower, usage hours, and load factors). Information about fuel consumption rates from construction equipment was obtained from the OFFROAD 2017 statewide database.

Fuel consumption from vehicle trips was estimated based on the number and class of vehicles and approximate vehicle miles traveled used by the applicant in the CalEEMod estimates, assuming distances from workers and vendor locations. The fuel consumption data were estimated by multiplying the proposed project's estimated vehicle miles traveled by fuel consumption factors available in the EMFAC2017 statewide database.

Assumptions

- The proposed buried conduits would be installed by plowing, trenching, and directional boring. The nodes (buried vaults) would be installed using a backhoe.
- Progress rates are 2 miles per day for plowing and trenching, 800 feet per day for boring (two crews working), and two nodes per day for the node installations.
- Approximately 90 percent of the plowed/trenched installations would be installed by plowing and the remaining 10 percent by trenching.
- Plowed conduit would be installed by a dozer equipped with a plow and cable reel. A second dozer may be used in tandem with the plow dozer in difficult areas.
- Trenched conduit would be installed using a backhoe or compact excavator.
- Bored conduit would be installed using a horizontal drilling rig with the assistance of a backhoe. An air compressor would be used for conduit pigging and blowing fiber through the conduit. A mud pump would be used for evacuating drilling fluid, and a backhoe would be used for digging bore pits.
- Vendor trips would include conduit, cable, and node delivery and water truck visits for dust control.
- Workers would be based in Anderson and vendors in Redding.
- Conduit and cable would be delivered at a rate of two miles per day for plowed installations and one mile per day for bored installations (two bore crews).
- Node vaults would be delivered in daily trips carrying both vaults to be installed. The water truck would apply water twice daily for all construction phases.
- All roads in the project area are paved.

Project Energy Consumption

Table 5.6-1 shows the total projected fuel consumption during the anticipated 60- to 120-day construction period. Fuel (gasoline and diesel) from the use of construction equipment and light- and heavy-duty vehicles would be the primary source of energy construction from the proposed project. Appendix C provides detailed tables and parameters used in the fuel consumption estimates. The projected future maintenance activities would be negligible compared to the construction estimates presented in Table 5.6-1, primarily gasoline consumption from light-duty vehicles used for routine maintenance.

Table 5.6-1 Fuel Consumption from Project Construction

Construction Phase Name	Consumption by fuel type (gallons)		Percentage from Off-road Equipment Use
	Gasoline	Diesel	
Plowed/trenched conduit installation	202	15	98%
Bored conduit installation	8398	226	96%
Node installation	45	12	90%
Total Fuel Consumption	8,645	252	98%

Significance Criteria

Table 5.6-2 describes the significance criteria from Appendix G of the CEQA Guidelines' energy checklist, which the CPUC used to evaluate the environmental impacts of the proposed project.

Table 5.6-2 Energy Checklist

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

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

As shown in Table 5.6-1, use of off-road construction equipment during construction of the proposed project would be the major contributor to energy consumption. Adding worker and vendor vehicle use during the 60- to 120-day construction period, the proposed project would consume up to 8,645 gallons of gasoline and 252 gallons of diesel. As the fuel consumption factors used for these estimates have been reported in the statewide databases, the values shown in Table 5.6-1 already assume the implementation of various federal and state fuel efficiency regulations, including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and the Low Emission Vehicle Program.

Additionally, the proposed project would be required to implement standard mitigation measures as determined by the Shasta County Planning Division. Therefore, the proposed project would avoid the wasteful and inefficient use of fuel, and impacts would be less than significant.

Significance: Less than significant.

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

The proposed project would not conflict or obstruct current state or local plans for renewable energy or energy efficiency as described in Section 5.6.2. As shown in Table 5.6-1, the proposed project would involve fuel consumption from short-term construction activities. Additional minimal amounts of fuel would be used for routine maintenance during project operations. Moreover, the proposed project aims to improve telecommunications in Shasta County, which would be consistent with Policy E-k of the SCGP. As a result, the proposed project would not conflict with the policies described in Chapters 6.4 and 7.4 of the SCGP. Additionally, the proposed project would not conflict with the existing RTP/SCS approved for Shasta County.

As such, the proposed project would not conflict with or obstruct the implementation of state or local plans for renewable energy or energy efficiency. Therefore, impacts would be less than significant.

Significance: Less than significant.

5.7 Geology and Soils

5.7.1 Environmental Setting

Topography and Geology

The proposed project would be located at the northernmost portion of the Great Valley geomorphic province.¹ The Great Valley is an alluvial plain roughly 50 miles wide by 400 miles long in the central part of California. Within the proposed project area, the Klamath Mountains bound the western portion of the valley and the Cascade Ranges bound the eastern portion. Sediments derived from these mountains have been continuously deposited in this province since the Jurassic period (approximately 160 million years ago) (CGS 2002).

Shasta County is a seismically active region; however, the Shasta County General Plan states that earthquake activity in the county is not a serious hazard, nor is it likely to become a serious hazard in the future (Shasta County 2004). Active faults are those that have ruptured within the Holocene epoch (past 11,000 years). The nearest active fault zone, the Hat Creek Fault Zone, is approximately 50 miles northeast (CGS 1991). Shasta County identifies several short faults near the proposed project area that are older, with future movement considered unlikely (Shasta County 2004).

While an earthquake's magnitude describes the strength of the forces released at the epicenter, seismic shaking experienced at a specific location depends on many factors. The California Geological Survey's (CGS's) Ground Motion Interpolator provides estimates of peak ground acceleration that may be felt at different locations throughout the state. The terminus of the proposed project's eastern alignment has an estimated 10 percent chance of experiencing peak ground acceleration of 0.207g and an estimated 2 percent chance of experiencing peak ground acceleration of 0.407g over a 50-year period (CGS 2008). The proposed project's western terminus has an estimated 10 percent chance of 0.210g and an estimated 2 percent chance of 0.424g, each over 50 year periods. (CGS 2008). Therefore, the project has a 2 percent chance of experiencing strong ground shaking in a 50-year period (USGS n.d.).

A landslide is a mass of rock, soil, or debris that has been displaced downslope by sliding, flowing, or falling. Landslides are known to occur throughout Shasta County, although they are most prevalent in the eastern and northern portions of the county (Shasta County 2004). According to the Shasta County General Plan, seismically induced landsliding is not considered a significant hazard in Shasta County (Shasta County 2004). Furthermore, the relatively flat topography of the proposed project alignment and its distance from hills, mountains, or slopes make landslides unlikely.

Liquefaction susceptibility reflects the relative resistance of soils to loss of strength when subjected to ground shaking. The Shasta County Multi-Jurisdictional Hazard Mitigation Plan considered liquefaction risk to be a minor hazard owing to the types of soils present in the county (Shasta County and City of Anderson 2011). The majority of the proposed project area has a depth to water table greater than 80 inches (USDA NRCS 2017). Given its distance to the nearest tributary (Clear Creek), gravelly soils, and relatively deep water tables, the proposed project area is likely at a low risk for liquefaction during an event of intense ground shaking.

Subsidence, the gradual sinking or caving of landmass, can be associated with liquefaction, soil consolidation, and collapse of subsurface cavities. Subsidence is more common in soils that have high silt or clay contents. The City of Redding does not consider subsidence a significant hazard in its planning

¹ A geomorphic province is an area that displays a distinct landscape or landform.

area. Shasta County does not include subsidence in its analysis of seismic and geologic hazards, and the proposed project alignment would not be located in an area of recorded historical or current subsidence (USGS 2018).

Soils

The soils in the proposed project area reflect the rock types in the hills and mountains surrounding the valley, extent of weathering of the rock, degree of slope, and degree of modification by humans. Table 5.7-1 presents characteristics and descriptions of the major soil units underlying the proposed project area. Soils in the proposed project area have been mapped as primarily consisting of Newtown gravelly loams and Red Bluff loams, with some Anderson gravelly sandy loam, Churn gravelly loam, Clough gravelly loam, Moda loam, tailings, and placer diggings (USDA NRCS 2017). These soils are not expansive (i.e., they have low linear extensibility), and they compact well for construction. They are slightly corrosive to concrete and moderately corrosive to uncoated steel. They are not strongly susceptible to erosion from wind and water.

Table 5.7-1 Soil Types and Characteristics in the Project Area

Soil Series or Association	Description	K Factor	Wind Erodibility Index (tons per acre)	Linear Extensibility (Percent)	Shrink-Swell Class
Ad	Anderson gravelly sandy loam	0.10	56	1.5	Low
NeD	Newtown gravelly loam, 15 to 30 percent slope	0.20	38	1.5	Low
NeE2	Newtown gravelly loam, 15 to 30 percent slope, eroded	0.20	38	1.5	Low
RbA	Red Bluff Loam, 0 to 3 percent slopes, MLRA 17, moist	0.24	48	2.2	Low
RbB	Red Bluff loam, 3 to 8 percent slopes	0.32	48	1.5	Low
RcA	Red Bluff gravelly loam, moderately deep, 0 to 3 percent slopes	0.15	38	1.5	Low
RcB	Red Bluff gravelly loam, moderately deep, 3 to 8 percent slopes	0.15	38	1.5	Low
TaD	Tailings and placer diggings	na	na	na	na

Source: USDA NRCS 2017

Notes:

Erosion K Factor indicates the susceptibility of a soil to sheet and rill erosion by water.

The Wind Erodibility Index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion.

Linear Extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state and determines shrink-swell class.

Soils with shrink-swell class that are rated moderate to high can damage buildings, roads, and other structures.

Key:

MLRA major land resource area

Na not applicable

Paleontological Setting

Paleontological resources and unique geological features are not defined under CEQA, although Appendix G of the CEQA Guidelines requires their consideration. For the purposes of this environmental analysis, paleontological resources are defined as fossils, fossil collecting localities, and the geologic formations that contain those fossils, and unique geological features are defined as locations or objects that are associated with various landscapes, represent unique physical environments, or represent geological processes. They are valued for the information they yield about the history of the earth and prehistoric life on earth and its past ecological settings and represent a limited, non-renewable, and impact-sensitive scientific and educational resource.

Information presented in this section was compiled from the TDS Telecom's (TDS's, or the applicant's) Proponent's Environmental Assessment (Tierra Right of Way Services, Ltd. 2015) and subsequent submittals for the proposed project, including information on the Paleontology Setting (Tierra Right of Way Services, Ltd. 2017).

Portions of Shasta County are underlain by sedimentary rocks that are known to produce valuable, scientifically significant vertebrate and invertebrate fossils. Therefore, portions of western and north central Shasta County have been rated as highly sensitive for producing valuable, scientifically significant vertebrate and invertebrate fossils, and a number of locations of paleontologically sensitive areas are scattered throughout the county (Shasta County 2004).

No known or previously identified paleontological resources have been identified within areas of proposed ground disturbance. However, paleontological resources are known to exist within Shasta County (University of California Museum of Paleontology 2018). For this reason, the general proposed project area has high sensitivity for uncovering paleontological resources.

Unique Geological Features

Unique geological features, in general, may include locations or objects (such as rock outcroppings, rock formations, sinkholes, etc.) that are associated with various landscapes, such as mountain peaks, coastal cliffs, headlands, beaches and dunes, and desert surfaces and canyons, or that represent unique physical environments, such as caves, lava fields, tar pits, or tufa structures. They may also represent, at a macro or micro scale, geological processes such as fault activity, earthquakes, landslides, erosion and mass wasting, subsidence, or volcanic eruptions (State of California 2017d).

No known or previously identified unique geological features have been identified within areas of proposed ground disturbance. One concealed geological fold (buried beneath the Great Valley geomorphic alluvium) was identified south of Redding. While this fold does not appear to overlap the proposed project alignment, its spatial relation is unclear, but suggests that the general proposed project area has high sensitivity for underlain unique geological features (Gutierrez et al. 2010).

5.7.2 Regulatory Setting

Federal

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The law requires establishment of regulatory zones—known as Earthquake Fault Zones—around the surface traces of active faults and issuance of appropriate maps for use in planning and controlling new or renewed construction. While the proposed project would not be used for occupancy, the maps help define areas where fault rupture is most likely to occur by grouping

faults as active, potentially active, or inactive. There are no Alquist-Priolo Earthquake Fault Zones in the proposed project area.

State

Seismic Hazards Mapping Act of 1990

The Seismic Hazards Mapping Act of 1990 directs the CGS to delineate Seismic Hazard Zones and requires site-specific geotechnical investigations prior to permitting most urban development projects within seismic hazard zones. The act addresses the effects of strong ground shaking, liquefaction, landslides, and other ground failure and seismic hazards caused by earthquakes, as well as tsunamis and seiches. City, county, and state agencies are directed to use seismic hazard zone maps developed by the CGS in its land use planning and permitting processes.

California Building Code

The 2016 California Building Code (CBC) was adopted by the California Building Standards Commission and became effective January 1, 2017, and is contained in Title 24 of the California Code of Regulations. The CBC is contained in Title 24 of the California Code of Regulations, and Appendix J of the 2013 CBC regulates grading activities, including drainage and erosion control and construction on unstable soils, such as expansive soils and areas subject to liquefaction.

Local

The Shasta County General Plan Seismic and Geologic Hazards Element contains several policies related to meeting its objectives of protecting development from seismic hazards, unstable slopes, volcanoes, erosion, and expansive soils, and of protecting waterways from erosion. The Seismic and Geologic Hazards Element states the following objectives regarding geology and soils:

- *Objective SG-3: Protection of development from other geologic hazards, such as volcanoes, erosion, and expansive soils.*
- *Objective SG-4: Protection of waterways from adverse water quality impacts caused by development on highly erodible soils.*

5.7.3 Environmental Impacts and Mitigation Measures

The impact analysis below identifies and describes the proposed project's potential impacts to geology and soils within the proposed project area. Potential impacts were evaluated according to significance criteria based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a more detailed evaluation. The proposed project would not involve the construction of septic tanks or the use of existing septic tanks during construction or operation. There would be no impact under criterion (e), and a detailed discussion is therefore not provided.

Applicant Proposed Measures

The applicant would implement the following APMs to minimize or avoid potential impacts on geologic and soil resources. Mitigation Measure (MM) GEN-1 requires implementation of these APMs to mitigate impacts on geology and soils resources and the impact analysis in this section applies these APMs to reduce impacts. A list of all project APMs is included in Table 4-2 in Chapter 4.

APM GEO-1: TDS will require the contractor to manage construction-induced sediment and excavated spoils in accordance with the requirements of the SWRCB and EPA NPDES permits for stormwater runoff associated with construction activities.

APM GEO-2: Prior to the onset of construction, TDS or its authorized contractor will complete a SWPPP that outlines BMPs to control discharges from construction areas.

APM GEO-3: No construction-related materials, wastes, spills, or residues will be discharged from the project.

APM GEO-4: The staging of construction materials, equipment, and excavation spoils will be performed outside of drainages.

APM GEO-5: Excavated or disturbed soil will be kept within a controlled area surrounded by a perimeter barrier that may entail silt fence, hay bales, straw wattles, or a similarly effective erosion-control technique that prevents the transport of sediment from a given stockpile.

APM GEO-6: All stockpiled material will be covered or contained in such a way that eliminates off-site runoff from occurring.

APM GEO-7: Upon completion of construction activities, excavated soil will be replaced and graded to that post-construction topography and drainage matches pre-construction conditions.

APM GEO-8: Surplus soil will be transported from the site and disposed of appropriately.

APM CR-5: In the event that fossil remains are encountered by construction personnel, qualified paleontological specialists will be contacted. Construction within 30.5 m (100.0 feet) of the find in non-urban areas and 15.2 m (50.0 feet) in urban areas will be temporarily halted or diverted until a qualified vertebrate paleontologist examines the discovery.

Significance Criteria

Table 5.7-2 describes the significance criteria from Appendix G of the CEQA Guidelines' geology and soils section which the CPUC used to evaluate the environmental impacts of the proposed project.

Table 5.7-2 Geology and Soils Checklist

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

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

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

The proposed project would not cause potential substantial adverse effects to people or structures, including the risk of loss, injury, or death because the majority of the proposed facilities to be installed would be buried underground. The proposed project alignment does not intersect with any known Alquist-Priolo Earthquake Fault Zone. Hat Creek fault is the nearest Alquist Priolo fault zone, approximately 50 miles northeast of the proposed project alignment. Furthermore, the proposed project would involve minimal ground disturbance that is not anticipated to exacerbate fault rupture conditions; therefore, there would be no impact under this criterion.

Significance: No impact.

1
2 *ii) Strong seismic ground shaking?*
3

4 The proposed project would not be located on or near any known active faults. The CGS's Ground
5 Motion Interpolator suggests that the probability for strong seismic shaking in the proposed project area is
6 low (CGS 2008). The proposed project area is susceptible to moderate or lesser ground shaking as a result
7 of a strong earthquake on one of the nearest active faults. In the event that strong seismic shaking were to
8 occur, the proposed project would not cause potential significant impacts to people or structures,
9 including the risk of loss, injury, or death because the majority of the proposed facilities to be installed
10 would be buried underground. Furthermore, the proposed project would not exacerbate conditions related
11 to strong seismic ground shaking; therefore, there would be no impact during under this criterion.
12

13 **Significance: No impact.**
14

15 *iii) Seismic-related ground failure, including liquefaction?*
16

17 Liquefaction occurs when loose, water saturated sediments lose strength and fail during strong ground
18 shaking. It is defined as the transformation of granular material from a solid state into a liquefied state as
19 a consequence of increased pore-water pressure. Areas of potential liquefaction are located around Clear
20 Creek, approximately 1 mile north of the proposed project area; however, the proposed project alignment
21 would not be located in any known areas of liquefaction. The proposed project is located approximately
22 50 miles from known active faults. As a result, lack of expansive soils, and relatively deep water tables
23 mean the proposed project is not likely to be considered susceptible to liquefaction or other seismically
24 induced ground failures. Furthermore, the proposed project would not exacerbate existing conditions
25 related to seismic-related ground failure; therefore, there would be no impact under this criterion.
26

27 **Significance: No impact.**
28

29 *iv) Landslides?*
30

31 The majority of the proposed project would be sited along roadsides with relatively flat topography on
32 either side of the proposed fiber-optic telecommunications cable (telecom line). The construction of the
33 proposed project would not alter topography or create slopes that would make the area prone to
34 landslides. The proposed project would not exacerbate existing landslide conditions or expose people or
35 structures to potential substantial effects due to landslides; therefore, there would be no impact under this
36 criterion.
37

38 **Significance: No impact.**
39

40 *b. Would the project result in substantial soil erosion or the loss of topsoil?*
41

42 Soils in the proposed project area have a low susceptibility to erosion by water and a moderate
43 susceptibility to wind erosion. The proposed project would involve trenching along approximately 10.3
44 miles of the proposed telecom line, as well as excavation of bore pits and Digital Loop Carrier (DLC)
45 cabinet vaults. Bare soils would be exposed immediately following construction and would become more
46 susceptible to erosion, especially during rain events. Excavated soil piles would also be prone to erosion,
47 which could result in a potential impact.
48

49 During trenching activities, in accordance with the requirements of the State Water Resources Control
50 Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) permits for stormwater
51 runoff associated with construction activities, the applicant would implement **APM GEO-1** and **APM**

GEO-2. As a result, the contractor would be required to manage construction-induced sediment and excavated spoils. The applicant would prepare a Storm Water Pollution Prevention Plan (SWPPP) outlining best management practices (BMPs) to control discharge from construction areas. **APM GEO-3** would ensure that no construction-related materials, wastes, spills, or residues would be discharged from the project. **APM GEO-4** would require that all construction materials, equipment, and excavation spoils be staged outside drainages. Implementation of **APM GEO-5** and **APM GEO-6** would also further ensure that all excavated or disturbed soil is kept within a controlled area surrounded by silt fencing, hay bales, straw wattles, or a similarly effective erosion-control technique. A compaction machine would follow directly behind the plow equipment, restoring the ground surface to its original contour and burying the conduit, per **APM GEO-7**, which would help prevent runoff and erosion. All work areas disturbed by construction would be revegetated with an approved seed mix to prevent erosion. **MM GEN-1** would ensure that the applicant would implement all proposed APMs. With implementation of such measures, the impact would be less than significant.

Significance: Less than significant with mitigation.

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

The proposed project would involve excavation of telecom line trenches, bore pits, and DLC cabinet vaults. As discussed under significance criteria (a)(iii) and (a)(iv), the proposed project area is relatively flat with little topographic relief, and is not conducive to landslides, on- or offsite, nor is it in an area of known liquefaction danger. Excavations would be relatively shallow (approximately 40 inches) and, for the most part, would be filled within 24 hours. They would be backfilled with the same substrate as that which was removed, after installation of the project components, ensuring that existing conditions are maintained after construction. For these reasons, the impact would be less than significant. However, upon completion of construction activities, **APM GEO-7** would ensure that excavated soil would be replaced and graded to post-construction topography, and that drainage matches pre-construction conditions, reducing any potential for the proposed project to contribute to or create unstable soil conditions. The impact would be less than significant under this criterion.

Significance: Less than significant.

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

The soils in the proposed project area consist of loams, gravelly loams, and sandy gravelly loams. The soils have a low shrink-swell class and a low linear extensibility. These factors indicate that site soils are not expansive. Trenches would be backfilled with the excavated soil, and soils would be compacted and re-contoured following construction. The proposed project would therefore not alter the soil makeup or exacerbate expansive soil conditions. There would be no impact under this criterion.

Significance: No impact.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

As described, the general proposed project alignment and areas where ground disturbance may occur have a high sensitivity for uncovering paleontological resources. Portions of the proposed project would be located in areas that are underlain by two geologic units known to produce valuable, scientifically significant paleontological resources such as vertebrate and invertebrate fossils. The surficial Red Bluff

Formation and the sedimentary Tehama Formation can be expected to be encountered in the ADI at the ground surface or below road fills, which vary in depth from approximately 2 to 40 feet.

Because installation of the proposed project could occur anywhere between approximately 4 feet (for the fiber-optic communications cable) and 10 feet (at new Digital Loop Carrier [DLC] sites or at existing DLC sites where the underground vault would require replacement), there may be some locations where construction-related subsurface disturbance would occur in highly sensitive paleontological areas. Therefore, implementation of the proposed project has high potential to uncover unknown paleontological resources, which is a potentially significant impact. In the event that paleontological resources are encountered during construction, **APM CR-5** would require that all construction activities be halted and a qualified paleontologist contacted. **MM GEO-1 and MM GEO-2** supplements **APM CR-5** by educating workers and by requiring paleontological monitoring in places where there is a high potential for encountering paleontological resources (fossils) during construction of the proposed project. **MM GEO-3** supplements **APM CR-5** by providing further details outlining the procedures that TDS would follow in the event of the discovery of a paleontological resource. Implementation of **APM CR-5** would reduce the potential impact for uncovering paleontological resources during construction to less than significant with the implementation of additional mitigation measures. Impacts on paleontological resource would be less than significant with the implementation of the mitigation measures.

Significance: Less than significant with mitigation.

Mitigation Measures

See Section 5.3, "Air Quality" for **MM GEN-1**.

MM GEO-1: Worker Education Program. TDS shall design and implement a Worker Education Program that requires training for all project personnel, including construction supervisors and field personnel, who may encounter and/or alter previously identified and as yet unidentified paleontological resources, including any that may be determined to be a unique paleontological resource or site or unique geologic feature. All construction workers shall receive this Worker Education Program training before engaging in field operations.

The Worker Education Program shall include training that covers, at a minimum, the following topics:

- A review of the types of paleontological resources that could be identified in the proposed project area;
- A review of applicable local and state ordinances, laws, and regulations pertaining to paleontological resources; and
- A discussion of procedures to be followed in the event that paleontological resources are discovered during implementation of the proposed project.

This program shall be coordinated with the cultural resources training provided as part of Section 5.5 Cultural Resources, **MM CUL-1**.

MM GEO-2: Paleontological Monitoring. TDS shall ensure that a CPUC-approved paleontologist conducts paleontological monitoring for the proposed project. The qualified paleontologist shall be approved prior to the start of construction by the CPUC.

The CPUC-approved paleontologist shall prepare a Paleontological Monitoring Plan. Prior to commencement of construction, TDS shall submit the Paleontological Monitoring Plan to the CPUC for

review and approval. The CPUC will approve or request changes to the Paleontological Monitoring Plan within seven days of submittal by TDS. Once the CPUC approves the Paleontological Monitoring Plan, TDS shall ensure that the CPUC-approved paleontologist implements the approved plan.

The Paleontological Monitoring Plan shall include the significance criteria for the fossils likely to be yielded by the Red Band and Tehama Formations, subject to CPUC-approval and outline how such criteria shall be applied to determine whether or not the paleontological resource is significant. In the absence of other agreed-upon criteria, a paleontological resource shall be considered unique if it meets the definition of a significant paleontological resource under the 2010 Society of Vertebrate Paleontology *Standard Procedures for the Assessment of Adverse Impacts to Paleontological Resources* definition:

Significant paleontological resources are fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years). (Society for Vertebrate Paleontology 2010)

The CPUC-approved paleontologist shall monitor the effects of all construction-related work conducted in these areas according to a Paleontological Monitoring Plan that is prepared for the proposed project by the CPUC-approved paleontologist and approved by the CPUC prior to the start of construction.

TDS, in consultation with the CPUC-approved paleontologist, shall implement the following procedures as part of paleontological monitoring:

- A CPUC-approved paleontologist conducts paleontological monitoring during construction in the locations with the potential to contain paleontological resources.
- TDS, in consultation with the CPUC-approved paleontologist, shall identify the locations within the proposed project area with the potential to contain paleontological resources.
- TDS shall erect protective barriers with signage identifying each exclusion area as an “environmentally sensitive area.”

The CPUC-approved paleontologist shall have the authority to implement the procedures set forth in MM GEO-2 if a paleontological resource is discovered at any time and in any location during construction of the proposed project, including within, and outside of, the locations that have been identified as having potential to contain paleontological resources.

At the conclusion of paleontological monitoring, TDS shall submit a report documenting the results of paleontological monitoring to the CPUC for review and approval. The monitoring report shall be prepared by the CPUC-approved paleontologist. The CPUC will approve or request changes to this monitoring report within seven days of submittal by TDS.

MM GEO-3: Treatment for Paleontological Resources. TDS shall immediately halt and exclude construction work within 100 feet of the discovery of a paleontological resource, and the CPUC-approved paleontologist shall inspect the paleontological resource. At the request of the CPUC-approved paleontologist, TDS shall install protective barriers with signage identifying the exclusion area as an “environmentally sensitive area.” TDS shall notify the CPUC of the paleontological resource discovery within 24 hours of its discovery.

The CPUC-approved paleontologist shall examine the find and evaluate it to determine whether it is likely to be considered unique under Part V of CEQA Guidelines Appendix G based on the criteria set forth in the Paleontological Monitoring Plan.

The CPUC-approved paleontologist shall prepare a report documenting the results of the evaluation of each discovered paleontological resource, or group of paleontological resources if located within the same exclusion area. TDS shall submit an evaluation report(s) to the CPUC for review and approval. The CPUC will approve or request changes to the evaluation report(s) within seven days of submittal by TDS. Once the CPUC has approved the evaluation report(s), the CPUC shall determine whether or not the paleontological resource is unique.

If the CPUC, in consultation with the CPUC-approved paleontologist, determines that the paleontological resource is not unique, TDS may commence work in the area upon approval by the CPUC. If the CPUC, in consultation with the CPUC-approved paleontologist, determines that the resource is unique, preservation in place, i.e., avoidance, is the preferred method of mitigation for impacts to unique paleontological resources. If TDS, in consultation with the CPUC-approved paleontologist, determines that the unique paleontological resource can be avoided and thus not impacted, TDS shall ensure that the CPUC-approved paleontologist documents the resource(s) in accordance with professional standards, such as those in the 2010 Society of Vertebrate Paleontology *Standard Procedures for the Assessment of Adverse Impacts to Paleontological Resources*. TDS shall continue to flag the area for avoidance during construction, and no further treatment shall be required as long as the unique paleontological resource is avoided during construction of the proposed project.

However, if the resource is found to be unique and TDS, in consultation with the CPUC-approved paleontologist, determines that it cannot feasibly be avoided, TDS shall consult with the CPUC to determine appropriate mitigation measures for the treatment of impacts on a unique paleontological resource as follows:

- Mitigation methods may include ensuring that fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards under the direction of the CPUC-approved paleontologist.
- Methods of recovery, testing, and evaluation shall adhere to current professional standards for recovery, preparation, identification, analysis, and curation, such as the 2010 Society of Vertebrate Paleontology *Standard Procedures for the Assessment of Adverse Impacts to Paleontological Resources*.
- The CPUC-approved paleontologist shall present the mitigation measures that are agreed upon by the CPUC and TDS, in consultation with the CPUC-approved paleontologist, in a Paleontological Treatment Plan.

TDS shall ensure that the CPUC-approved paleontologist implements the approved Paleontological Treatment Plan, and TDS may commence work in the area with the CPUC's approval after the identified paleontological resource(s) have been recovered from the field (if recovery is implemented as part of mitigation) and upon approval by the CPUC.

TDS shall ensure that the CPUC-approved paleontologist prepares a report documenting the results of the treatment within 90 days of the CPUC's approval of the Paleontological Treatment Plan. TDS shall ensure that the report presents a thorough discussion of the data recovery efforts, presents the conclusions drawn from the data recovery work, and indicates where the recovered unique paleontological resources will be curated. TDS shall submit the report documenting the treatment to the CPUC for review and

1 approval. Once the CPUC approves this report, TDS shall curate the materials and shall provide a copy of
2 the approved report documenting the treatment to CPUC for its records.
3

5.8 Greenhouse Gases

5.8.1 Environmental Setting

According to the U.S. Environmental Protection Agency (EPA), climate change refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period—decades or longer (EPA 2017). The term is often used interchangeably with the term “global warming.” Climate change, or global warming, represents an average increase in the temperature of the atmosphere near the Earth’s surface, which can contribute to changes in global climate patterns. Changes in climate may cause a variety of consequences, such as increased flooding in coastal areas, multi-year droughts, and heat waves. Climate change has been attributed to a variety of causes, including natural and human activities (EPA 2017). Climate change is expected to affect water supplies, agriculture, power and transportation systems, the natural environment, and health and safety (EPA 2017).

Constituent gases that trap heat in the earth’s atmosphere are called greenhouse gases (GHGs), analogous to the way a greenhouse retains heat. Anthropogenic emissions of these GHGs in excess of natural ambient concentrations are responsible for the augmentation of the “greenhouse effect” and have led to a trend of unnatural warming of the earth’s natural climate known as global warming. The standard definition of GHGs include six substances identified in the Kyoto Protocol: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

State and Local Greenhouse Gas Emissions

The Shasta Regional Climate Action Plan (CAP) was developed in 2012 and comprises a collection of individual climate action plan for the cities of Anderson, Redding, and Shasta Lake, and unincorporated areas of Shasta County. The CAP is consistent with Assembly Bill (AB) 32 and sets the County on a path to achieve a more substantial long-term reduction in the post-2020 period; see section 5.8.2, “Regulatory Setting,” below.

California’s total GHG emissions have followed a declining trend since 2007. In 2015, statewide emissions were reported as approximately 440.4 million metric tons of carbon dioxide equivalents (MTCO₂e) (CARB 2017a). From 2000 to 2015, GHG emissions in the state decreased by approximately 19 percent; the peak year for annual emissions was 2001 (CARB 2017b).

According to recent data reported by the California Air Resources Board (CARB), the transportation sector was the state’s largest contributor to emissions in 2015, accounting for approximately 37 percent of total emissions in California. On-road vehicles account for approximately 89 percent of transportation sector emissions. The second largest contributor to total emissions is the industrial sector, generating approximately 21 percent of total emissions. Emissions from electricity generation make up 19 percent of total emissions. (CARB 2017b)

In 2008, the unincorporated communities in Shasta County reported total baseline emissions of 3,131 million MTCO₂e. Stationary and transportation were the predominant GHG sources in these communities, representing 81 percent of the total emission. Other sources of GHG in unincorporated Shasta County included energy consumption (7 percent), forestry (5 percent), and agriculture (4 percent). The off-road vehicle/recreation, solid waste, and water (including water and wastewater) sectors make up the remaining 4 percent of the emissions inventory (Shasta County 2012).

5.8.2 Regulatory Setting

Federal

In response to the Supreme Court's Massachusetts v EPA decision in December 2009, the EPA issued two findings regarding GHGs under Section 202(a) of the Clean Air Act:

- The Endangerment Finding states that the current and projected concentrations of the six key GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) in the atmosphere threaten public health and welfare.
- The Cause or Contribute Finding states that the combined emissions of GHGs from new motor vehicles and new motor vehicle engines contribute to GHG pollution.

These findings were a foundation for the EPA's regulation of vehicle GHG emissions. The EPA and the U.S. Department of Transportation's National Highway Traffic and Safety Administration (NHTSA) jointly developed GHG emission reduction regulations for light-duty vehicles and heavy-duty engines. The standards are projected to cut 6 billion metric tons of GHG over the lifetime of new vehicles sold between 2012 and 2025 (EPA 2016).

State

Assembly Bill 1493. In 2002, the California legislature adopted regulations to reduce GHG emissions in the transportation sector. In September 2004, pursuant to AB 1493, CARB approved regulations to reduce GHG emissions from new motor vehicles, beginning with the 2009 model year. In September 2009, CARB adopted amendments to AB 1493 regulations to reduce GHG in new passenger vehicles from 2009 to 2016. CARB, the EPA, and the NHTSA have coordinated efforts to develop fuel economy and GHG standards for model 2022-2025 vehicles. The GHG standards are incorporated into the Low Emission Vehicle Regulations (LEV III).

Executive Order S-3-05. Executive Order (EO) S-3-05, issued in 2005, established statewide GHG emission reduction targets of 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. This EO recognized the state's susceptibility to climate change impacts.

Assembly Bill 32 and Assembly Bill 32 Scoping Plan. In 2006, the Global Warming Solutions Act, AB 32, was enacted, requiring a reduction of the state's GHG emissions to 1990 levels by 2020, consistent with EO S-3-05.

AB 32 requires CARB to prepare and approve a scoping plan, known as the Climate Change Scoping Plan, to achieve the maximum technologically feasible and cost-effective reductions in GHG emissions from sources or categories of sources of GHGs by 2020. The initial Climate Change Scoping Plan was approved in December 2008, and CARB approved the plan's first update in May 2014 (CARB 2018). Measures in the Climate Change Scoping Plan are being adopted over time as regulations. The plan includes a range of GHG emission reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system.

GHG reduction measures presented in the Climate Change Scoping Plan that are applicable to the proposed project include the Low Carbon Fuel Standard, regional transportation-related GHG targets, light-duty vehicle GHG standards, medium/heavy-duty vehicle GHG standards, vehicle efficiency measures, goods movement, energy efficiency, high global warming potential (GWP) gases, and recycling and waste. The California legislature has also passed legislation implementing most of the

Climate Change Scoping Plan’s measures. Legislation applicable to the proposed projects is described below.

Executive Order S-01-07 – Low Carbon Fuel Standard. In January 2007, the governor set a new standard for transportation fuels sold in California, which set a reduction of at least 10 percent in the carbon intensity of transportation fuels by 2015.

Senate Bill 375 – Sustainable Communities Strategy. In 2008, Senate Bill (SB) 375 was adopted to achieve the GHG reduction targets established in the Climate Change Scoping Plan for the transportation sector through local land use decisions that affect travel behavior. In relevant part, SB 375 requires CARB to set regional targets for GHG emission reductions from passenger vehicles and light duty trucks.

Other Mobile Source Reduction Requirements. Several other state provisions address the GHG emissions reduction targets set by CARB for mobile sources. The following measures are applicable to the proposed project:

- **Advanced Clean Cars Program:** adopted in 2012; a set of regulations (LEV III, Zero Emissions Vehicle regulation, and Clean Fuels Outlet) that would apply to new vehicles with model years between 2017 and 2025, with a goal of GHG emission reduction of 34 percent in 2025 (CARB 2012).
- **Heavy-Duty Vehicle GHG Emission Reduction Regulations:** regulations that apply to new heavy duty tractors and trailers to reduce GHG emissions through installation fuel efficient tires and aerodynamic devices on trailers (CARB 2008).
- **On-Road Heavy Duty Diesel Vehicle Regulations:** requires diesel trucks and buses to be upgraded to reduce GHG emissions under a phased implementation that would have almost all buses and trucks with 2010 engines by January 1, 2023 (CARB 2016).

Executive Order B-30-15. Governor Jerry Brown Jr. signed EO B-30-15 on April 29, 2015, which established an interim statewide GHG reduction target of 40 percent below 1990 levels by 2030, necessary to guide regulatory policy and investments in California in the mid-term and put the state on the most cost-effective path for long-term emission reductions. Under this order, all state agencies with jurisdiction over sources of GHG emissions must continue to develop and implement emissions reduction programs to reach the state’s 2050 target and attain a level of emissions necessary to avoid the most dangerous outcomes of climate change. According to the Governor’s Office, this order is in line with the scientifically established levels needed in the United States to limit global warming below 2 degrees Celsius—the warming threshold at which scientists say there would likely be major climate disruptions such as super droughts and rising sea levels (Office of Governor Edmund G. Brown, Jr. 2015).

Senate Bill 32 and Assembly Bill 197. In 2016, the California Legislature enacted SB 32, requiring a reduction of the state’s GHG emissions to at least 40 percent below 1990 levels by 2030, consistent with EO B-30-15. The legislature also passed AB 197, a companion bill to SB 32, which provides additional direction for development of scoping plans. CARB is currently in the process of updating the Climate Change Scoping Plan to reflect the new targets for 2030 (CARB 2017a).

Local

The CAP was developed in 2012 and, as noted above, comprises a collection of individual climate action plans for the cities of Anderson, Redding, and Shasta Lake, and unincorporated areas of Shasta County. The CAP documents the county's commitment to the state's GHG reduction efforts. It summarizes jurisdictional GHG inventories and describes how each jurisdiction would achieve GHG reductions through local actions that contribute to the statewide GHG emissions reduction target defined in AB 32. A 2008 baseline for GHG emissions was used by each jurisdiction, and forecasts were made for 2020, 2035, and 2050 for each jurisdiction, with the exception of Redding, which focused on 2020. Emission reduction goals were 15 percent below 2008 levels by 2020; 49 percent below 2008 levels by 2035; and 83 percent by 2050. The CAP proposes a number of measures for existing and new residential and commercial projects that would help the county reach its GHG goals. None of the measures are applicable to the proposed project, and the plan does not provide specific thresholds for significance for individual source contributors to total GHGs (Shasta County 2012).

5.8.3 Environmental Impacts and Mitigation Measures

The impact analysis below identifies and describes the proposed project's potential impacts on GHGs within the proposed project area. Potential impacts were evaluated according to significance criteria based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a detailed evaluation. GHG impacts anticipated to occur from the proposed project's operational characteristics would be negligible and emissions from this phase would be from occasional truck trips for maintenance, connecting or disconnecting customers, and inspecting or potentially repairing equipment.

Applicant Proposed Measures

The applicant has not incorporated APMs to specifically minimize or avoid impacts on GHGs. A list of all project APMs is included in Table 4-2 in Chapter 4.

Significance Criteria

Table 5.8-1 describes the significance criteria from Appendix G of the CEQA Guidelines' GHG section which the CPUC used to evaluate the environmental impacts of the proposed project.

Table 5.8-1 Greenhouse Gas Emissions Checklist

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

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

In the absence of a rulemaking by CARB to establish a statewide GHG emission significance threshold, the CPUC assesses the impacts of GHG emissions on a case-by-case basis. The Shasta County AQMD has not adopted any performance-based standards to assess significance as required by CEQA. In areas of California where the local air pollution control district has not adopted a threshold of significance, as is the case with the Shasta County AQMD, the CPUC typically applies a significance threshold from another district. For the purposes of this analysis, the South Coast Air Quality Management District (SCQAMD) interim significance threshold for stationary sources was selected as a reference value for impact assessment under this criterion. The SCQAMD approach establishes a significance threshold of 10,000 MTCO₂e per year for the construction emissions amortized over a 30-year project lifetime, plus annual operation emissions (SCAQMD 2008).

During construction of the proposed project, GHGs (primarily CO₂) would be emitted from engine exhaust of diesel- and gasoline-fueled construction equipment and on-road vehicles (e.g., delivery trucks, light-duty vehicles, off-road construction equipment, heavy-duty diesel vehicles, and worker vehicles).

In total, construction activities associated with the proposed project would generate approximately 75 MTCO₂e of emissions, as shown in Table 5.8-2. Amortized over 30 years, this would be equivalent to 3 MTCO₂e per year. Therefore, the impact is less than significant. Detailed emissions calculations and assumptions are presented in Appendix C.

Table 5.8-2 Estimated Construction Unmitigated Greenhouse Gas Emissions

Greenhouse Gas Equivalent Emissions	Total Project (MTCO ₂ e)
Carbon dioxide (CO ₂)	75
Methane (CH ₄)	< 1
Total	75
Amortized construction emissions (30-year period)	3

Key:

MTCO₂e metric tons of carbon dioxide equivalents

Significance: Less than significant.

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

The proposed project's GHG emissions would not exceed regional or quantitative thresholds developed to comply with AB 32 and California Climate Change Scoping Plan statewide reduction targets; therefore, the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Project construction and operation would result in emissions covered by several relevant plans, policies, and regulations. Table 5.8-3 contains an analysis of consistency with those plans, policies, and regulations.

Table 5.8-3 Project Consistency with Plans, Policies, and Regulations

Plan, Policy, or Regulation	Consistency Analysis
Federal vehicle emissions standards	The proposed project would utilize vehicles during construction that would be subject to federal vehicle regulations and would therefore comply with federal vehicle emissions standards. The proposed project would not conflict with vehicle emission standards.
AB 32 and Scoping Plan	The proposed project would be subject to and comply with policies and measures in the AB 32 Scoping Plan that have been and will be implemented as regulations. The Scoping Plan sets forth GHG reduction measures such as the Low Carbon Fuel Standard, light and heavy-duty GHG standards, energy efficiency, and recycling and waste reduction. The proposed project would comply with all of the fuel and vehicle standards and would dispose of and recycle all project-related waste in the appropriate manner, as required by law. The proposed project's GHG emissions would not exceed regional quantitative thresholds developed to comply with AB 32 and the California Climate Change Scoping Plan statewide reduction target. The proposed project would therefore not conflict with AB 32.
Executive Order S-3-05	This EO established statewide GHG emission reduction targets of 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. The proposed project would not substantially increase GHG emissions in the proposed project area during construction. GHG emissions from the proposed project would not exceed regional quantitative thresholds developed to comply with AB 32 and the California Climate Change Scoping Plan statewide reduction target. The proposed project would therefore not conflict with EO S-3-05.
AB 1493	The proposed project would use construction vehicles that comply with state vehicle emissions standards. The proposed project would not conflict with AB 1493.
Executive Order S-01-07—Low Carbon Fuel Standard	Fuels purchased for the proposed project would comply with the Low Carbon Fuel Standard. The proposed project would not conflict with the low carbon fuel standard.
California Renewable Energy Programs	In 2002, California initially established its Renewables Portfolio Standard, to increase the percentage of renewable energy in the state's electricity mix to 20 percent by 2017. State energy agencies recommended accelerating that goal, and California EO S-14-08 (November 2008) required California utilities to reach the 33 percent renewable electricity goal by 2020, consistent with the AB 32 Scoping Plan. SB X1-2 expressly applies the new 33 percent Renewables Portfolio Standard by December 31, 2020, to all retail sellers of electricity and establishes renewable energy standards for interim years prior to 2020. The proposed project would not involve a decrease or increase in renewable energy generation or aim to specifically increase import of renewable energy. Therefore, it would not conflict with the California Renewable Energy Programs.
Executive Order B-30-15	EO B-30-15 establishes a new interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030. The interim GHG reduction target was established to ensure that California meets its goal of reducing GHG emissions to 80 percent below 1990 levels by 2050. Executive Order B-30-15 requires state agencies to consider climate change in their planning and investment decisions, giving priority to actions that reduce GHG emissions. The proposed project would not significantly increase GHG emissions in the proposed project area during construction and during operations and maintenance, as previously discussed. The proposed project would therefore not conflict with EO B-30-15.
Advanced Clean Cars Program	Vehicles with a model year from 2017 to 2025 purchased for use for the proposed project would comply with regulations in the Advanced Clean Cars Program. The proposed project would not conflict with the Advanced Clean Cars Program.
Heavy-Duty Truck GHG Regulations	Certain vehicles used for the proposed project would be subject to heavy-duty truck and trailer regulations. Heavy duty trucks and trailers that comply with state regulations would be used. The proposed project would therefore not conflict with heavy-duty truck GHG regulations.

Table 5.8-3 Project Consistency with Plans, Policies, and Regulations

Plan, Policy, or Regulation	Consistency Analysis
On-Road Heavy Duty Diesel Vehicle Regulations	Certain vehicles used for the proposed project would be subject to heavy-duty truck and trailer regulations. Heavy duty trucks and trailers that comply with state regulations would be used. The proposed project would therefore not conflict with on-road heavy-duty diesel vehicle regulations.

Key:

AB Assembly Bill
EO Executive Order
GHG greenhouse gas
proposed project Olinda Last Mile Underserved Broadband Project
SB Senate Bill

Significance: Less than significant.

Mitigation Measures

Because all GHG impacts related to the proposed project would be less than significant, no mitigation measures are required.

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5.9 Hazards and Hazardous Materials

5.9.1 Environmental Setting

Hazardous Waste and Substances Sites

The applicant conducted an Environmental Data Resources (EDR) DataMap Corridor Study to determine the locations of hazardous wastes and hazardous material release sites within 0.5 miles of the proposed project (EDR 2015). The distance (0.5 miles) covers contamination sites with the potential to migrate into the utility corridor. The analysis included database searches from local, state, and federal agencies with varying levels of enforcement related to the generation, storage and handling, transportation, and treatment of wastes, as well as emergency response activities and remediation of contaminated soil and groundwater sites. The report identified 41 sites, none of which are considered to represent a Recognized Environmental Condition.¹ There are no Superfund-listed or other National Priorities List sites in the vicinity of the proposed project. (EDR 2015)

In addition to EDR's search, the following databases were searched, which are often collectively referred to as the "Cortese List," as listed in Government Code Section 65962.5:

- State Water Resource Control Board's (SWRCB's) Geotracker database, Cease and Desist Orders and Cleanup and Abatement Orders list;
- California Environmental Protection Agency's highly hazardous solid waste sites; and
- California Department of Toxic Substance Control's (DTSC's) EnviroStor database and hazardous waste sites.

The search found no active Cortese List sites within 0.5 miles of the proposed project alignment (DTSC 2009; EDR 2015; SWRCB 2016). Four closed leaking underground storage tank cleanup sites are located in Happy Valley along the proposed project alignment. These sites are classified as "closed," indicating that the SWRCB considers appropriate corrective actions complete.

Emergency Evacuation Routes

The Shasta County Emergency Operations Plan does not identify any roads in the proposed project area as emergency evacuation routes (Shasta County 2014).

Airports

There are no airports located within 5 miles of the proposed project. The closest public airport is the Redding Municipal Airport 5.5 miles northeast of the proposed project area. Benton Airpark, a general use public airstrip, is 6.4 miles north of the proposed project area.

Schools

Two schools are located within 0.25 miles of the proposed project area and proposed alignment. Happy Valley Elementary School is adjacent to the proposed project area at the intersection of Palm Avenue and Happy Valley Road. Igo-Ono Elementary School is located on Placer Road, 0.13 miles south of the

¹ A Recognized Environmental Condition is defined by the American Society for Testing and Materials as "the presence or likely presence of any hazardous substances or petroleum products in, on or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment."

proposed project. The next closest school is Happy Valley Primary School, which is 0.33 miles east of the proposed project on Cloverdale Road.

Wildfire Hazards

The California Department of Forestry and Fire Protection (CAL FIRE) identifies and maps areas of substantial fire hazards based on fuels, terrain, weather, and other relevant factors (CAL FIRE 2012). CAL FIRE maps indicate that the proposed project area and vicinity are within a State Responsibility Area and classified as a “Very High” Fire Hazard Severity Zone (CAL FIRE 2007). The County’s 2016 Multi-Jurisdictional Hazard Mitigation Plan (Draft) describes the community of Igo, the western terminus of the proposed fiber optic cable route, as in the “Brush Area” of the county. The Brush Area is characterized as urbanized with structures typically having single, unmaintained roads for fire emergency access. The threat to life and property from wildlife in these areas is considered high. During the 2013 Clover Fire, over 8,000 acres, 68 residences, and 128 outbuildings were destroyed in Igo (Cal FIRE 2013). Fire protection services and equipment near the proposed project alignment are discussed in further detail in Section 5.14, “Public Services.” For a more detailed discussion of wildfire hazards and potential wildfire impacts associated with the proposed project, refer to Section 5.20 “Wildfire.”

5.9.2 Regulatory Setting

Federal

Resource Conservation and Recovery Act. The Resource Conservation and Recovery Act (RCRA) regulates hazardous waste from generation, management, storage, transport, treatment, and final disposal. The U.S. EPA has authorized the DTSC to administer the state-level RCRA programs. A RCRA-regulated hazardous waste exhibits at least one of four characteristics: ignitability, corrosivity, reactivity, or toxicity. To track hazardous waste activities, treatment, storage, and disposal, facility owners and operators must keep records and submit reports to the EPA at regular intervals. All facilities that generate, transport, recycle, treat, store, or dispose of hazardous waste are required to notify the EPA (or its state agency) of their hazardous waste activities.

Hazardous Materials Transportation Act. The primary objective of the Hazardous Materials Transportation Act is to provide adequate protection against risks to life and property inherent in the transportation of hazardous materials in commerce. This act empowers the U.S. Department of Transportation to regulate the transportation of hazardous materials by rail, aircraft, vessel, or public highway. Hazardous materials regulations are subdivided by function into the following four areas within 49 Code of Federal Regulations (CFR) Parts 101, 106, 107, 171 to 177, and 178 to 180: Procedures and/or Policies, Material Designations, Packaging Requirements, and Operational Rules.

Occupational Safety and Health Standards. The Occupational Safety and Health Standards (CFR Title 29) are regulations for safety in the workplace and construction safety, including safety regarding the use of helicopters for construction. Occupational Safety and Health Administration (OSHA) standards require implementation of a Hazard Communication Plan to identify and inventory all hazardous materials and material safety data sheets. OSHA’s standards also require employee training in safe handling of hazardous materials.

State

California Health and Safety Code Section 25501. California Health and Safety Code (HSC) Section 25501 defines the term *hazardous material* as any material that, because of quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for

believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment. Title 8, Section 339 of the California Code of Regulations (CCR) lists substances identified as *hazardous substances* for which employers must provide material safety data sheets to employees.

California Code of Regulations Title 22, Section 66261.1. CCR Title 22, Section 66261.1 identifies wastes subject to regulation and notification requirements, pursuant to the California HSC, as hazardous wastes. The HSC defines a waste as hazardous if it has any of the following characteristics: ignitability, corrosivity, reactivity, or toxicity. It also provides lists of hazardous wastes regulated under RCRA, non-RCRA-regulated hazardous wastes, hazardous wastes from specific sources, extremely hazardous wastes, hazardous wastes of concern, and special wastes. The EPA has authorized the California DTSC to administer the RCRA program in California.

Certified Unified Program Agency and Hazardous Materials Plans. Administration of the Certified Unified Program Agency (CUPA) is authorized by the California HSC (Chapter 6.11, Sections 25404-25404.8) and CCR Title 27, Division 1, Subdivision 4, Chapter 1, Sections 15100–15620. This program is implemented at the local level by government agencies certified by the secretary of the California Environmental Protection Agency. The Shasta County Environmental Health Division is the designated CUPA for the county.

Hazardous Waste Control Act. The Hazardous Waste Control Act established the state hazardous waste management program, whose requirements are similar to, but more stringent than, those of RCRA. CCR Title 26 describes the requirements for the proper management of hazardous waste under the Hazardous Waste Control Act, including the following:

- Identification and classification;
- Generation and transportation;
- Design and permitting of recycling, treatment, storage, and disposal facilities;
- Treatment standards;
- Operation of facilities and staff training; and
- Closure of facilities and liability requirements.

These regulations list more than 800 materials that may be hazardous and establish criteria for the identification, packaging, and disposal of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must document waste from generation to transporter to disposal. Copies of this documentation must be filed with the California DTSC. Hazardous wastes that may be encountered or generated during the construction and operation of the proposed project would be subject to the requirements of the Hazardous Waste Control Act.

Government Code Section 65962.5: Cortese List. The Cortese List includes all hazardous waste facilities subject to corrective action; land designated as hazardous waste property or border zone property; information received from the California DTSC about hazardous waste disposals on public land; sites listed pursuant to the California HSC Section 25356 (removal and remedial action sites); and sites included in the Abandoned Site Assessment Program. Pursuant to Government Code Section 65962.5, the California DTSC compiles and updates the Cortese List as appropriate, but at least annually.

California Occupational Health and Safety Administration. The California Occupational Health and Safety Administration (CalOSHA) is responsible for the development and enforcement of workplace safety standards and ensuring worker safety in the handling and use of hazardous materials. CalOSHA

requires businesses to prepare Injury and Illness Prevention Plans and Chemical Hygiene Plans. Its Hazards Communication Standard requires that workers be informed of the hazards associated with the materials they handle. Manufacturers are required to label containers, provide material safety data sheets in the workplace, and provide worker training. Employer are required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings. Similar to the federal OSHA, CalOSHA contains requirements to prevent worker exposure to certain types of hazardous substances, like asbestos and lead, in the workplace.

Underground Service Alert (DigAlert). California Government Code 4216 et seq. defines mandatory notification procedures for subsurface excavations and installations. Pursuant to Section 4216 et seq., the applicant must contact the Underground Service Alert of Northern California, also known as DigAlert, at least two, but no more than 14, working days prior to conducting excavation activities for each component of the proposed project.

Local

Regional Water Quality Control Board and Stormwater Pollution Prevention Plans. Under the National Pollutant Discharge Elimination System, California's Regional Water Quality Control Boards require a Construction Activities Storm Water General Permit (Order 2009-0009-DWQ) for stormwater discharges associated with any construction activity—including clearing, grading, excavation reconstruction, and dredge and fill activities—that results in the disturbance of at least 1 acre of total land area. Since the proposed project would disturb more than 1 acre, this permit would be required, along with a Stormwater Pollution Prevention Plan (SWPPP). SWPPPs require the use of site-specific best management practices during construction to reduce the potential for erosion and sedimentation and for vehicle and equipment fueling and maintenance, material storage, spill prevention, and waste management. Permits are administered by the Central Valley Regional Water Quality Control Board in Shasta County.

Shasta County Air Quality Management District. Local air quality management districts enforce standards set by the California Air Resources Board. The proposed project area is within the jurisdiction of the Shasta County Air Quality Management District (Shasta County AQMD). The Shasta County AQMD is part of the Shasta County Resource Management Department and is responsible for managing and permitting existing, new, and modified sources of air emissions within its boundaries, estimates releases of air contaminants, and maintains an emission inventory to track emissions of all permitted devices. Further discussion of air pollutants and contaminants in the proposed project area can be found in Section 5.3, "Air Quality."

Shasta County Multi-Jurisdictional Hazard Mitigation Plan. The Shasta County Multi-Jurisdictional Mitigation Plan identifies and analyzes existing hazards (such as flood, wildfire, extreme weather, earthquake, volcano, etc.) and implements and sustains actions that reduce vulnerability and risk from hazards, or reduce the severity of the effects on people and property. This plan covers the entire project area and identifies that the proposed project is within a "Very High" Fire Hazard Severity Zone (see Section 4.3 of the plan). (Shasta County and City of Anderson 2011)

Shasta County General Plan. The Shasta County General Plan provides policy direction for land development in unincorporated Shasta County. Chapter 5.0, the Public Safety Group, describes elements that define basic constraints on land use, including seismic and geological hazards, flood protection, and dam inundation (Chapter 5.6); fire safety and sheriff protection (Chapter 5.14); noise (Chapter 5.12); and hazardous materials (Chapter 5.6). The objectives relevant to the proposed project, Objectives HM-1 and HM-2, focus on the protection of life and property from contact with hazardous material and in the event of the accidental release of hazardous materials. (Shasta County 2004)

5.9.3 Environmental Impacts and Mitigation Measures

The impact analysis below identifies and describes the proposed project's potential impacts on the environment related to hazards and hazardous materials within the proposed project area. Potential impacts were evaluated according to significance criteria based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a detailed evaluation. The proposed project would not be located on a hazardous materials site pursuant to Government Code Section 65962.5, within an airport land use plan, or within 2 miles of a public airport or public use airport (the closest public-use airport is Redding Municipal Airport, located 5.5 miles northeast of the proposed project area). Therefore, there would be no impact under criteria (d) or (e), and a detailed discussion is therefore not provided.

Applicant Proposed Measures

The applicant would implement the following APMs to minimize or avoid potential impacts related to hazards and hazardous materials. Mitigation Measure (MM) GEN-1 requires implementation of these APMs to mitigate impacts regarding hazards and hazardous materials and the impact analysis in this section applies these APMs to reduce impacts. A list of all proposed project APMs is included in Table 4-2 in Chapter 4.

APM HAZ-1: TDS and/or their contractor will ensure proper labeling, storage, handling, and use of hazardous materials in accordance with best management practices and OSHA's HAZWOPER requirements.

APM HAZ-2: TDS and/or their contractor will ensure that employees are properly trained in the use and handling of hazardous materials and that each material is accompanied by a MSDS.

APM HAZ-3: Any small quantities of hazardous materials stored temporarily in staging areas will be stored on pallets within fenced and secured areas and protected from exposure to weather. Incompatible materials will be stored separately, as appropriate.

APM HAZ-4: All hazardous waste materials removed during construction will be handled and disposed of by a licensed waste disposal contractor and transported by a licensed hauler to an appropriately licensed and permitted disposal or recycling facility to the extent necessary to ensure the area can be safely traversed.

APM HAZ-5: Spill clean-up kits would be provided and kept on-site during construction, and equipment would remain in good working order to prevent spills. Significant releases or threatened releases of hazardous materials will be reported to the appropriate agencies.

APM HAZ-6: Workers shall be instructed regarding the danger of wildland fire and the need to carefully park equipment in areas without dry, brushy vegetation. All work vehicles shall

be equipped with working a fire extinguisher. All cigarettes and trash shall be disposed of in proper containers and taken off site at the end the day.

Significance Criteria

Table 5.9-1 describes the significance criteria from Appendix G of the CEQA Guidelines' hazards and hazardous materials section, which the CPUC used to evaluate the environmental impacts of the proposed project.

Table 5.9-1 Hazards and Hazardous Materials Checklist

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

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

During construction of the proposed project, common hazardous materials such as gasoline, diesel fuel, motor oil, antifreeze, transmission fluids, and hydraulic fluids would be used to operate construction equipment. Leaks or spills could occur due to improper use or storage and during the operation of construction equipment, refilling, transport, and disposal. Operation and maintenance activities would include periodic vehicle trips to Digital Loop Carrier cabinets to connect and disconnect customers and

periodic maintenance of vegetation around Digital Loop Carrier cabinets with small, portable vegetation trimming equipment, such as brush cutters. Hazardous materials would be limited to fuel for vegetation trimming equipment and common fluids found in standard work vehicles. Because of the temporary nature of the construction activity, lasting less than 60-120 days (and much more briefly in any one location along the alignment), the transport, use, and/or disposal of small quantities of hazardous materials is not routine or considered a permanent aspect of the proposed project. However, to minimize the potential impact, the applicant would implement **APM HAZ-1, APM HAZ-2, APM HAZ-3, APM HAZ-4, and APM HAZ-5** to ensure that hazardous materials are handled, stored, and transported properly and that response to spills is immediate. As with construction, TDS staff would be trained on safe handling of hazardous materials and all vehicles would be kept in good, working order to reduce the potential for leaks or spills during operation of the proposed project. **MM GEN-1** would ensure that the applicant would implement all proposed APMs. Such measures would ensure impacts due to construction and operation of the proposed project would be less than significant.

Significance: Less than significant with mitigation.

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

As discussed under criterion (a), the proposed project would use common hazardous materials to accommodate construction activities for a temporary period. The applicant would transport, use, or dispose of hazardous materials and petroleum products in accordance with the applicant's BMPs and all applicable federal, state, and local regulations. However, accidental releases or spills could still occur, representing a potential hazard to the public and environment during construction, which could be a significant impact. Such impacts could include risk of an oil or hazardous materials release from trenching or improper handling, inadvertent releases/spills to occur during construction, upset and accident conditions during installation activities could include vehicle collisions and/or fire. To minimize the potential of releasing hazardous materials into the environment, the applicant would implement **APM HAZ-1, APM HAZ-2, APM HAZ-3, APM HAZ-4, and APM HAZ-5** to ensure that hazardous materials are handled, stored, and transported properly and that response to spills is immediate. **MM GEN-1** would ensure that the applicant would implement all proposed APMs. Such measures would ensure that impacts due to reasonably foreseeable upset and accident conditions involving the release of hazardous materials would be less than significant.

Significance: Less than significant with mitigation.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

There are two schools located within 0.25 miles of the proposed alignment. Any accidental releases or spills could occur during construction activities or transporting these materials for disposal, which could result in a significant impact to schools if the release or spill occurred in close proximity to the school. The nearest school is approximately 260 feet from the proposed alignment, measured from the physical structure's (i.e., school building's) distance from the proposed alignment. As described under the discussion for impact criterion (a), the applicant would transport, use, or dispose of hazardous materials and petroleum products in accordance with all applicable federal, state, and local regulations.

Due to the short-term nature of construction, as well as the small quantity and types (e.g., fuels, oils, etc.) of hazardous materials being used during construction, it is unlikely that either of the schools would be affected by the accidental release of hazardous materials or emissions. However, to minimize potential

impacts, the applicant would implement the following APMs. **APM HAZ-1** and **APM HAZ-2** would ensure that all hazardous materials are labeled, handled, transported, and disposed of in an appropriate manner, reducing the potential for any spills or accidental releases during construction. **APM HAZ-4** would ensure that all hazardous waste materials removed during construction are handled and disposed of by licensed contractors, reducing the potential for any unexpected spills or leaks. Any potential impacts from accidental spills of hazardous materials would be minimal due to the implementation of **APM HAZ-5**, requiring that spill clean-up kits be provided and kept onsite during construction, as well as equipment and vehicles being kept in good working order to prevent spills and leaks and be compliant with emissions standards. **MM GEN-1** would ensure that the applicant would implement all proposed APMs. Impacts on the two schools located within 0.25 miles of the proposed project area would be less than significant.

Significance: Less than significant with mitigation.

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

Construction of the proposed project would occur within public ROW and would result in temporary, short-term lane closures throughout the proposed project area. Directional boring, for example, would be used to install 5 miles of the cable alignment in 1,500-foot increments via three to four bore shots per day. Bulldozers would be used along 10.3 miles of the cable alignment in 1,000-foot increments. Traffic control would be set up for the day's work operation. Shasta County's Emergency Operations Plan does not designate any roads within the proposed project area as major transportation or evacuation routes. Therefore, there would be no impact on implementation of emergency response plans or emergency evacuation plans during construction and operation of the proposed project.

Significance: No impact.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

As previously described, the proposed project would be located in an area designated as a "Very High" Fire Hazard Severity Zone. Construction activities would involve the operation of construction equipment and support vehicles adjacent to wildlands. There is a minor risk of fire ignition by this equipment if the equipment is parked on dry vegetation. Any flammable liquids, such as gas and oil, spilled during construction would also contribute to an increased risk of fire if ignited by an open flame or spark. To minimize the potential impact, the applicant would implement **APM HAZ-1**, **APM HAZ-2**, and **APM HAZ-5**. These measures would reduce the risk of wildland fire by ensuring that flammable materials are labeled, stored, and used appropriately; ensuring that contractors are properly trained in handling flammable hazardous materials; and requiring that spill clean-up kits be provided and kept onsite during construction to clean up any spilled flammable liquids. **APM HAZ-6** would be implemented to reduce the potential for wildland fires caused by the proposed project by requiring workers to be instructed regarding the danger of wildland fire and carefully parking equipment in areas without dry, brushy vegetation. In addition, all work vehicles shall be equipped with a working fire extinguisher. Cigarettes and trash shall be disposed of in proper containers and taken offsite at the end of the day. **MM GEN-1** would ensure that the applicant would implement all proposed APMs. With the implementation of **APM HAZ-1**, **APM HAZ-2**, **APM HAZ-5**, and **APM HAZ-6**, and **MM GEN-1** impacts would be less than significant.

Significance: Less than significant with mitigation.

1 **Mitigation Measures**

- 2
- 3 See Section 5.3, “Air Quality” for **MM GEN-1**.

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5.10 Hydrology and Water Quality

5.10.1 Environmental Setting

Hydrologic System

The proposed project would be located in the Sacramento River Hydrologic Region, which covers approximately 17.4 million acres and serves as the main water supply for much of California's urban and agricultural areas (DWR 2015). It would extend south from the Modoc Plateau and the Cascade Range at the Oregon border, to the Sacramento-San Joaquin Delta. There are 88 individual basins and subbasins located within the Sacramento River Hydrologic Region. The proposed project would be located within the Redding Area Groundwater Basin in the Anderson Subbasin.

Groundwater

The Redding Area Groundwater Basin is bounded by the Cascade Mountains to the east, the Klamath Mountains to the north, and the Coast Ranges to the west, and covers approximately 390,160 acres (DWR 2015). The primary fresh-groundwater-bearing formations in the basin are the Tuscan and Tehama Formations. The Tuscan Formation is derived primarily from mudflow and reworked volcanic deposits, and in the valley, this formation composition consists of interbedded layers of gravel, sand, silt, and clay (DWR 2015). The permeability of the Tuscan Formation is moderate to high, with yields of 100 to 1,000 gallons per minute (gpm) (DWR 2004). The Tehama Formation consists of a series of stacked and overlapping alluvial fan deposits, derived from material eroded from the Coast Ranges and Klamath Mountains, and consist of interbedded gravel, sand, silt, and clay layers (DWR 2015). Permeability of the Tehama Formation is moderate to high, with yields of 100 to 1,000 gpm (DWR 2004). Well yield data indicate that groundwater production in the basin varies between 8 and 2,000 gpm, with an average yield of 288 gpm. The groundwater storage capacity of the 510-square-mile Redding Basin is approximately 5.5 million acre-feet for 200 feet of saturated thickness; specific yield data for the Anderson Subbasin aquifer system are not available to estimate storage capacity at the subbasin level (DWR 2004).

The Anderson Subbasin aquifer system is composed of continental deposits of late Tertiary age, including Pliocene Tehama and Tuscan formations, and Quaternary age, including Holocene alluvium and Pleistocene Modesto and Riverbank formations (DWR 2004). The main sources of recharge for the aquifer system are deep percolation of precipitation and applied water, along with leakage from surface streams (SCWA 2007). The primary source of groundwater discharge from the aquifer is groundwater pumping, along with small subsurface outflow from the basin (SCWA 2007). While monthly measurements show seasonal fluctuations in water levels, over the long term, groundwater levels in the Redding Basin have remained steady (SCWA 2007). The general quality of groundwater in the Redding Basin is good to excellent for most uses, except for water from shallow depths along the margin of the basin; some wells in these areas are above water quality limits (primarily metals, chloride, and sulfide) for drinking (SCWA 2007). Potential hazards to groundwater quality in Shasta County include high concentrations of nitrates and dissolved solids from agricultural practices and septic tank failures (Shasta County 2004).

The California Department of Water Resources (DWR) implemented the California Statewide Groundwater Elevation Monitoring Program in response to legislation enacted in the California Water Code as part of California's 2009 Comprehensive Water package. This program requires the DWR to prioritize California's groundwater basins using the following factors: population, projected population growth, public supply wells, total number of wells, irrigated acreage overlying the basin, groundwater use, and impacts of that use (DWR 2014). The groundwater basin prioritization was developed as a statewide ranking of groundwater basin importance, with rankings ranging from *Very Low* to *High*, with

1 *High* being the most important basins. *High and Medium* priority basins account for 96 percent of
2 California's annual groundwater extraction and 88 percent of California's population. The Anderson
3 Subbasin has an overall basin priority-level of *Medium* (DWR 2014).
4

5 **Surface Waters**

6 The majority of the water supply in Shasta County comes from surface flows and is collected in the
7 mountainous regions of the county and carried by streams, creeks, and rivers to lower elevations to be
8 stored in lakes, reservoirs, and groundwater basins (Shasta County 2004). The primary surface water
9 resources in Shasta County are impounded within or conveyed through Lake Shasta (16 miles northeast of
10 Igo) and Whiskeytown Reservoir (6.5 miles north of Igo). Surface water represents 77 percent (258,550
11 acre-feet) of all diversions, groundwater represents 16 percent (77,124 acre-feet), and reclaimed water 0.3
12 percent (1,160 acre-feet). In total, 565,572 acre-feet are diverted for beneficial use in Shasta County, such
13 as agricultural supply and municipal and domestic supply.
14

15 Potential hazards to surface water quality in the county include high turbidity from sediment resulting
16 from erosion of improperly graded construction projects, high concentration of nitrates and dissolved
17 solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban
18 areas, and warm water drainage discharges into cold water streams (Shasta County 2004).
19

20 The proposed project would cross 29 waterways and eight wetlands (see Figure 5.10-1). All waterways in
21 the proposed project area are ephemeral except for perennial Dry Creek at the west end of the proposed
22 project area near Igo (Tierra ROW 2015, Appendix D). Although no formal wetland and waterway
23 delineations were completed, all wetlands in the proposed project area are potentially state- and federally
24 jurisdictional. All non-wetland waterways, with the exception of the Happy Valley Ditch and Happy
25 Valley Canal, are considered to be jurisdictional under both the state and federal Clean Water Acts
26 (CWAs). The Happy Valley Ditch and Happy Valley Canal are likely jurisdictional solely under the
27 California CWA.
28

29 **Precipitation**

30 Precipitation and temperature range widely in Shasta County due to the relatively large difference in
31 elevation between the valley floor and the highlands. Average annual rainfall in the Redding Basin varies
32 from 25 to 50 inches (SCWA 2007).
33

34 **Federal Emergency Management Agency-Designated 100-Year Flood Zone**

35 The entire proposed project area would be located within Flood Zone X, meaning it is outside of the 0.2
36 percent annual chance floodplain (FEMA 2011).

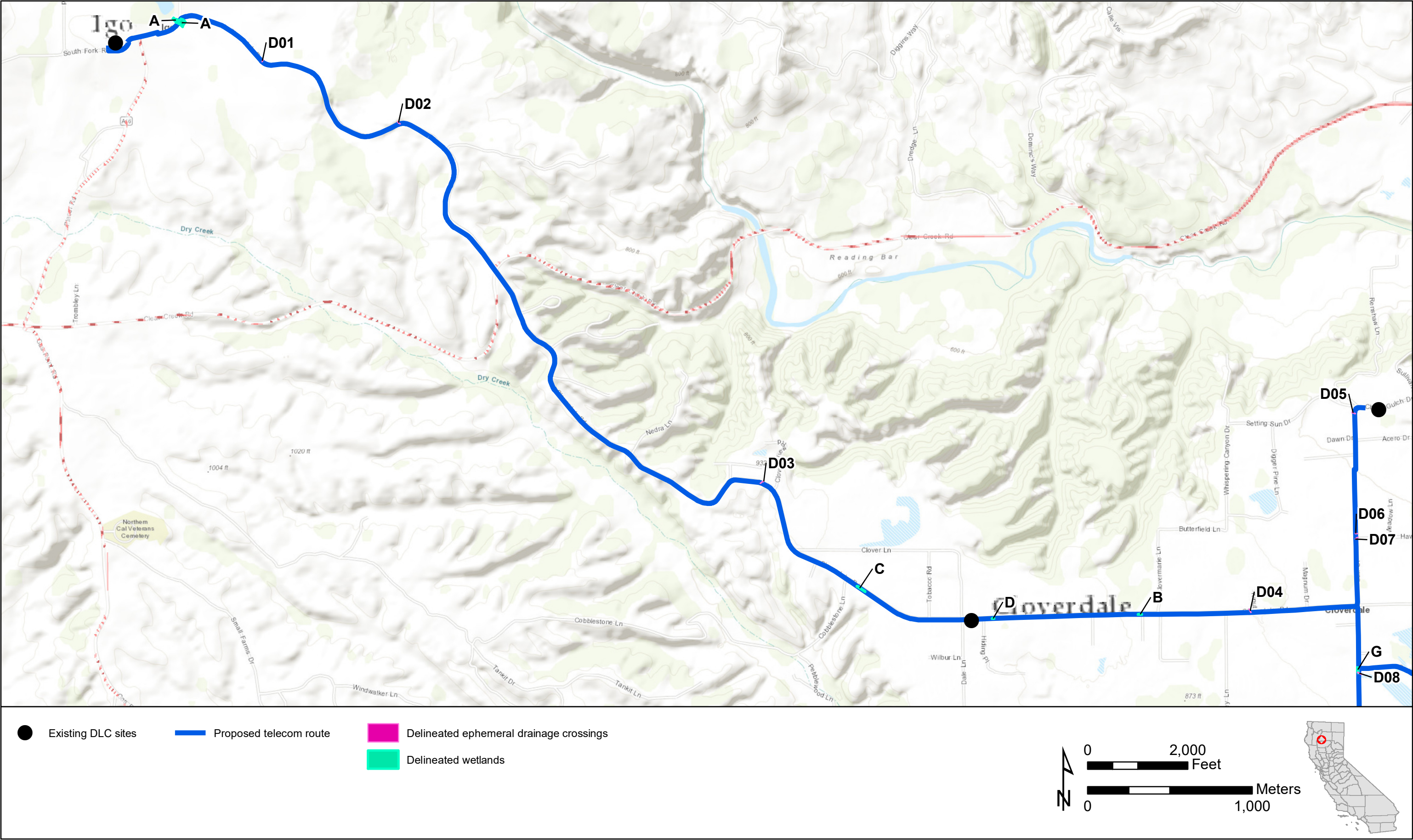


Figure 5.10-1
Wetlands and Waterways in the Project Area

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Water Supply

In 2003, the Redding Area Water Council released the *Phase 2C Report*, as part of the Redding Basin Water Resources Management Plan, which detailed the needs of individual water districts within the basin. The Clear Creek Community Services District (CSD) would provide water for the proposed project, and draws its water from the Whiskeytown Reservoir. The Clear Creek CSD consists of a gravity system with three storage tanks, which have a combined capacity of 5.3 million gallons, as well as three groundwater wells, each with a capacity of 2.2 million gallons per day. As of 2003, it was predicted that in the year 2015 the Clear Creek CSD would have a demand of between 9,500 and 10,000 acre-feet, with a supply of 15,300 acre-feet during normal-year operating conditions (Redding Area Water Council 2003). Following heavy rains throughout the 2016–2017 winter season, surface water and snow pack near the proposed project area were above historical averages, and on April 2, 2017, California State Governor Jerry Brown lifted the drought emergency in California (USGS 2018). Therefore, it is assumed that the proposed project would be under construction during normal-year operating conditions for water resources.

5.10.2 Regulatory Setting

Federal

Clean Water Act (33 U.S.C. 1251 *et seq.*). The CWA regulates discharge of pollutants into the waters of the U.S. with the objective of restoring and maintaining the chemical, physical, and biological integrity of the nation’s waters. Under Section 404 of the CWA, the U.S. Army Corps of Engineers (USACE) is authorized to regulate the discharge of fill or dredged material into waters of the U.S., which includes wetlands. Wetlands are defined as lands that are “inundated or saturated by surface or ground water at a frequency or duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 Code of Federal Regulations [CFR] 328.3; 40 CFR 230.3). The USACE requires a project proponent to obtain a Section 404 Nationwide or Individual Permit if the project proposes to dredge or fill waters that fall within the jurisdiction of the CWA.

Section 401 of the CWA stipulates that a federal agency cannot issue a permit or license for an activity that may result in a discharge to waters of the U.S. unless the state or tribe where the discharge would originate has granted or waived Section 401 water quality certification. The state or tribe may grant, grant with conditions, deny, or waive certification. In California, the Regional Water Quality Control Board (RWQCB) administers the Section 401 Water Quality Certification Program. Section 401 certification is required before the USACE may issue a Section 404 permit for discharge of dredged or fill material into waters of the U.S. Many states, including California, rely on Section 401 certification as a primary regulatory tool for protecting wetlands and other aquatic resources.

State

National Pollution Discharge Elimination System. Under the National Pollution Discharge Elimination System (NPDES), the applicable RWQCB, in this case the Central Valley RWQCB, requires an application under the Construction Activities Storm Water General Permit (Order 2009-009-DWQ) for stormwater discharges associated with any construction activity, including clearing, grading, and excavation, that results in the disturbance of at least 1 acre of total land area. Because the proposed project would disturb more than 1 acre, a NPDES permit and Stormwater Pollution Prevention Plan (SWPPP) would be required. The Porter-Cologne Water Quality Control Act also necessitates Waste Discharge Requirements for discharges where state—but not federal—jurisdictional waters are affected.

Water Quality Control Plan for the California Regional Water Quality Control Board, Central Valley Region. The State of California Water Board coordinates with nine statewide RWQCBs regarding

regional water resource management. The proposed project area is part of the Sacramento River Basin, which is within the RWQCB's Central Valley Region. The Water Quality Control Plan (Basin Plan) for the RWQCB Central Valley Region describes the hydrological conditions of the region, outlines prohibited activities within that region, and defines water quality objectives for inland surface waters (California RWQCB Central Valley Region 2018). The following water quality objective is recommended:

- **3.1.15 Sediment:** *The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.*

Local

Shasta County General Plan, Water Resources Element. The projected total water demands for the year 2030 are 671,850 acre-feet for Shasta County and 342,350 acre-feet for the Redding Basin. These numbers represent an increase from 579,900 acre-feet for Shasta County and 280,460 acre-feet for the Redding Basin in 1995. In order to meet future water supply needs for both areas, the following objectives and policies are recommended:

- *Policy W-a: Sedimentation and erosion from proposed developments shall be minimized through grading and hillside development ordinances and other similar safeguards as adopted and implemented by the County.*

Shasta County General Plan, Flood Protection Element. The purpose of the Flood Protection Element is to reduce damage to public health and property resulting from flooding. Flood protection is required as part of a General Plan by Government Code Section 63202(a). The proposed project would not be located within a floodplain boundary, and there is a low potential for flooding in the proposed project area; therefore, none of the objectives and policies discussed in the Flood Protection Element apply to the proposed project.

5.10.3 Environmental Impacts and Mitigation Measures

The impact analysis below identifies and describes the proposed project's potential impacts on hydrology and water quality within the proposed project area. Potential impacts were evaluated according to significance criteria based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a more detailed evaluation.

Operation/maintenance activities associated with the proposed project would include occasional visits by the applicant's technicians to the Digital Loop Carrier (DLC) sites to check on equipment cabinets and connect or disconnect customers. These activities would occur within existing roads and rights-of-way and would not include substantial ground disturbance or use of heavy machinery. As such, these activities do not have the potential to significantly impact water quality in a way that would violate any water quality standards or waste discharge requirements, substantially decrease groundwater supplies, or otherwise degrade water quality.

Applicant Proposed Measures

The applicant has not incorporated applicant proposed measures (APMs) to specifically minimize or avoid impacts on hydrology and water quality; however, APMs proposed from other resource sections, further described below, would mitigate impacts regarding hydrology and water quality. Mitigation Measure (MM) GEN-1 requires implementation of these APMs to mitigate impacts, and the impact

analysis in this section applies these APMs to reduce impacts. A list of all project APMs is included in Table 4-2 in Chapter 4.

Significance Criteria

Table 5.10-1 describes the significance criteria from Appendix G of the CEQA Guidelines' hydrology and water quality section, which the CPUC used to evaluate the environmental impacts of the proposed project.

Table 5.10-1 Hydrology and Water Quality Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: <ul style="list-style-type: none"> i. Result in substantial erosion or siltation on- or off-site; ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv. Impede or redirect flood flows? 	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

Construction of the proposed project would involve ground disturbance and trenching that has the potential to increase sediment erosion and transport within the proposed project area, possibly degrading the quality of receiving waters within and adjacent to the proposed project area; however, all waterways and wetlands crossed by the proposed project would be bored beneath and avoided during construction. Spoil piles not covered and secured could also cause sediment transport, especially during a rain event. As discussed in Section 5.8, "Hazards and Hazardous Materials," construction would also include the storage, use, transport, and disposal of hazardous materials, such as fuels and oils, used for construction

equipment and vehicles. Any spills or leaks from equipment could affect water quality if these materials enter local surface waters within or near the proposed project area.

To avoid or minimize impacts on water quality standards and waste discharge, the applicant would implement the following APMs in accordance with the requirements of the State of California RWQCB and NPDES permits for stormwater runoff associated with construction activities. The applicant would implement **APM GEO-1**, which would require the contractor to manage construction-induced sediment and excavated spoils along with these permit requirements. **APM GEO-2** would require the development and implementation of a SWPPP that outlines best management practices (BMPs) to control discharges from construction areas. **APM BIO-2** and **APM BIO-3** would require the applicant to completely avoid wetlands and waterways and their associated riparian vegetation during telecom line installation through the use of horizontal boring and bore pit setbacks. **APM HAZ-5** would require spill clean-up kits to be provided and kept on site during construction. **MM GEN-1** would ensure that the applicant would implement all proposed APMs. With the implementation of **APM GEO-1**, **APM GEO-2**, **APM BIO-2**, **APM BIO-3**, **APM HAZ-5**, and **MM GEN-1**, impacts to water quality would be less than significant under this criterion.

Significance: Less than significant with mitigation.

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

The proposed project may require the use of local water resources for dust suppression and track-out removal. As mentioned above in Section 5.10.1, the water supply for the proposed project would be obtained from the Clear Creek Community Service District (CCCSD), which relies on surface water supply obtained from Whiskeytown Reservoir. When operating under normal-year conditions, CCCSD would likely have an excess supply of approximately 5,000 acre-feet per year (Redding Area Water Council 2003). Project construction would occur over a 60- to 120-day period and would not require quantities of water that could feasibly substantially decrease groundwater supplies. Similarly, project activities would not interfere substantially with groundwater recharge. Therefore, impacts would be less than significant under this criterion.

Significance: Less than significant.

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

- i. Result in substantial erosion or siltation on- or offsite;***
- ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;***
- iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or***
- iv. Impede or redirect flood flows?***

The majority of the proposed project would involve the installation of fiber-optic telecommunications cable underground, which would not alter the existing drainage patterns of the area. Approximately 10.3 miles of the cable alignment would be installed in open trenches. However, no more than 1,000 linear feet of disturbance would be allowed at any time; therefore, open trenches would not remain open long

enough to alter existing drainage patterns. The installation of seven new DLC cabinets would introduce new impervious surfaces. However, each equipment cabinet measures only 2 by 3 feet and would have a negligible effect on both the rate and quantity of surface runoff from the proposed project area. Furthermore, the proposed project would not be located in a 100-year floodplain. Therefore, installation of these new impervious surfaces is not expected to alter existing drainage patterns of the site or area, substantially increase surface runoff quantities, or impede or redirect flood flows.

While ground-disturbing activities such as trenching would increase the potential for sediment-polluted runoff during project construction, as discussed in detail under criterion (a), the proposed project would not direct runoff in excess of current quantities into existing or planned stormwater drainage systems. Therefore, neither construction nor operation of the proposed project would exceed existing or planned stormwater drainage system capacity. However, any quantity of runoff water could carry sediment-polluted water from proposed project work areas off site, including into stormdrain systems.

To minimize the potential for sediment-polluted runoff from being carried off site, the applicant would implement **APM GEO-1**, which requires the contractor to manage construction-induced sediment and excavated spoils along with these permit requirements. The applicant would additionally implement **APM GEO-2**, which would require the development and implementation of a SWPPP that outlines BMPs to control discharges from construction areas. Although the proposed project would not alter the existing drainage patterns of the site or area, alter the course of any waterway, or result in a substantial increase in impervious surfaces, the applicant would implement **APM GEO-7** to minimize any impacts. **APM GEO-7** would ensure that, following cable installation, areas disturbed by construction would be recontoured and restored to preexisting conditions. Finally, the applicant would implement **MM GEN-1**, which would ensure that the applicant would implement all proposed APMs. Impacts would be less than significant under this criterion.

Significance: Less than significant with mitigation.

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

The proposed project would be located inland, approximately 100 miles from the Pacific Ocean, and in an area with relatively flat topography. While the proposed project area is located in a seismically active region, there are no nearby waterbodies capable of generating seiches or tsunamis. Due to the relatively flat topography found throughout much of the proposed project area, slopes capable of generating mudflows are not present, nor would they be created by the construction of the proposed project.

Additionally, the proposed project would not be located within any flood zones, flood hazard areas, or dam inundation areas. Furthermore, the final operational project facilities would be limited to fiber optic cable buried underground within an existing roadway right-of-way, and DLC cabinets, splice boxes, and line markers installed aboveground. None of these aboveground facilities contain hazardous materials that could be released in the unexpected event of project inundation. Therefore, the proposed project would not result in an increased risk of pollutant release in the event of a flood, tsunami, or seiche, and there would be no impact under this criterion.

Significance: No impact.

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The proposed project falls within the Central Valley RWQCB planning and management boundaries. Local water management plans must, at a minimum, comply with water quality thresholds and measures

as defined by the RWQCB. The Water Quality Control Plan for the RWQCB Central Valley Region recommends that suspended sediment load and discharge not be elevated such that it can be considered a nuisance, or such that the sediment load adversely affects other beneficial uses of the impacted water resource.

Locally, the proposed project area is covered by the Shasta County General Plan, Water Resources Element and the Shasta County General Plan, Flood Protection Element. Because the proposed project area does not fall within a 100-year floodplain, it does not conflict with any of the policies or objectives described in the Flood Protection Element. However, the Shasta County General Plan, Water Resources Element describes objectives and policies intended to maintain water quality throughout the county. Policy W-a requires that proposed development projects incorporate safeguards that would minimize sedimentation and erosion. While the proposed project is not a development project, construction would involve ground disturbance and trenching that could potentially increase sediment erosion and transport within the proposed project area, possibly degrading the water quality of receiving waters within and adjacent to the proposed project area.

In accordance with the requirements of the State of California RWQCB and NPDES permits for stormwater runoff associated with construction activities, the applicant would implement **APM GEO-1**, which would require the contractor to manage construction-induced sediment and excavated spoils along with these permit requirements. **APM GEO-2** would require the development and implementation of a SWPPP that outlines BMPs to control discharges from construction areas. **MM GEN-1** would ensure that the applicant would implement all proposed APMs. With the implementation of **APM GEO-1**, **APM GEO-2**, and **MM GEN-1**, project activities would not conflict with the intent of the Shasta County General Plan, Water Resources Element, and impacts would be less than significant under this criterion.

Significance: Less than significant with mitigation.

Mitigation Measures

See Section 5.3, “Air Quality” for **MM GEN-1**.

5.11 Land Use and Planning

5.11.1 Environmental Setting

Land uses adjacent to the proposed project alignment include agriculture (i.e., row crops and orchards) and low-density, rural residential uses. Community facilities, including schools, are also located near the proposed route. Land uses in the vicinity of the proposed project are primarily rural residential and agricultural and are surrounded by open space and undeveloped forested land. Public lands managed by the Bureau of Land Management (BLM) are located near the western portion of the proposed project area.

5.11.2 Regulatory Setting

Federal

Redding Resource Management Plan. The Redding Resource Management Plan requires that land use authorizations utilize existing right-of-way (ROW) routes to the maximum extent possible; this plan will be replaced and updated by the Northwest California Integrated Resource Management Plan (BLM 1993, 2016). Though the BLM has jurisdiction over ROWs on the Clear Creek Greenway in the vicinity of the proposed project area, the proposed project alignment would be located within the ROW of Cloverdale Road. Additionally, though there is public land managed by the BLM located at the western end of the proposed project area, the proposed project alignment would not cross BLM land. Thus, the proposed project would not be subject to the Redding Resource Management Plan.

State

There are no applicable state regulations or policies related to land use and planning for the proposed project.

Local

The proposed project would be located entirely within unincorporated Shasta County.

Shasta County General Plan. The Shasta County General Plan provides policy direction for land development in unincorporated Shasta County. The following policies from the Shasta County General Plan are relevant to the proposed project:

- *AG-h: The site planning, design, and construction of onsite and offsite improvements for nonagricultural development in agricultural areas shall avoid unmitigatable short- and long-term adverse impacts on facilities, such as irrigation ditches, used to supply water to agricultural operations.*
- *FW-c: Projects that contain or may impact endangered and/or threatened plant or animal species, as officially designated by the California Fish and Game Commission and/or the U. S. Fish and Wildlife Service, shall be designed or conditioned to avoid any net adverse project impacts on those species.*
- *SH-a: To protect the value of the natural and scenic character of the official scenic highway corridors and the County gateways dominated by the natural environment, the following provisions, along with the County development standards, shall govern new development:*
 - *setback requirements*
 - *regulations of building form, material, and color*

- landscaping with native vegetation, where possible
- minimizing grading and cut and fill activities
- requiring use of adequate erosion and sediment control programs
- siting of new structures to minimize visual impacts from highway
- regulation of the type, size, and location of advertising signs utility lines shall be underground wherever possible; where undergrounding is not practical, lines should be sited in a manner which minimizes their visual intrusion. (Shasta County 2004)

While there are no Designated or Eligible State Scenic Highways in or near the proposed project area, the proposed project would be located along a section of Shasta County Route A16 (CR A16), which is designated in the Shasta County General Plan as a corridor in which natural environment is dominant.

Shasta County Code. The Shasta County Code provides for the orderly and efficient application of the policies of Shasta County with respect to land use planning and management (Shasta County 2018). The proposed project area is located entirely within road ROWs in areas zoned rural residential (R-R) district and limited agriculture (A-1) district, per Title 17 – Zoning. BLM lands near the western part of the proposed project area are zoned as exclusive agriculture (EA) and agriculture preserve (AP). Several parcels classified as mixed use (MU) district and public facilities (PF) district are located near the intersection of Oak Street and Cloverdale Road and the intersection of Palm Avenue and Happy Valley Road. Because the proposed project alignment would occur entirely within road ROWs, Title 12 – Streets, Sidewalks and Public Places of the code applies to the proposed project. Shasta County considers all unincorporated territory one road district.

5.11.3 Environmental Impacts and Mitigation Measures

The impact analysis below identifies and describes the proposed project's potential impacts on land use within the proposed project area. Potential impacts were evaluated according to significance criteria based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a detailed evaluation.

Applicant Proposed Measures

The applicant has not incorporated APMs to specifically minimize or avoid land use impacts. A list of all project APMs is included in Table 4-2 in Chapter 4.

Significance Criteria

Table 5.11-1 describes the significance criteria from Appendix G of the CEQA Guidelines' land use section, which the California Public Utilities Commission used to evaluate the environmental impacts of the proposed project.

Table 5.11-1 Land Use and Planning Checklist

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

a. Would the project physically divide an established community?

Physical division of an established community can occur through construction of physical barriers or obstacles to access and circulation, as well as linear infrastructure or an assemblage of land uses that could restrict or hinder interaction and access to land along a project's utility corridor or adjacent areas. The division of an established community would typically involve the construction of a barrier to neighborhood access (e.g., a new freeway segment) or the removal of a means of access (e.g., a bridge or roadway) that could impair mobility within or between existing communities and surrounding areas.

The proposed project would involve installation of telecommunications infrastructure—including over 80,000 feet of fiber optic cable and seven equipment cabinets—to provide high-speed internet service to the communities of Igo, Olinda, and Ono in Shasta County. The fiber optic network cable would be buried in conduit within utility easements in the shoulders of existing County roadways. Shasta County permits co-locating telecommunication infrastructure with public roadways through encroachment permits. The encroachment permit process conditions and regulates construction (e.g., trenching, grading, erosion control, etc.) to meet established engineering and safety standards and avoid indirect impacts outside of the construction zone.

Once installation of the proposed telecommunications infrastructure is complete and operational, the proposed project's aboveground physical infrastructure would be limited to seven DLC sites. Each DLC site's aboveground components would include a 2- by 3- by 4-foot equipment cabinet, an 8-inch by 8-inch by 2-foot cross connect box, and a 20-square-foot area of gravel around each equipment cabinet. Since the DLC sites would not obstruct or limit access to the county's roadway network, the proposed project would not disrupt, physically divide, or isolate surrounding communities and would therefore, have a less-than-significant impact.

Significance: Less than significant.

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

The Shasta County General Plan guides land use decisions through general policies and objectives in the area of the proposed project (Shasta County 2004). The CPUC will consider the proposed project's compatibility with General Plan policies that are not related to physical environmental issues when deciding if the proposed project will be approved. Conflicts between the proposed project and General Plan policies related to physical environmental issues are discussed, as relevant, in the Chapter 4 impact analyses of this Initial Study. Table 5.11-2 outlines applicable policies.

Table 5.11-2 Shasta County General Plan Policies

General Plan Policy	Conflict Analysis
Policy AG-h: The site planning, design, and construction of on-site and off-site improvements for nonagricultural development in agricultural areas shall avoid unmitigatable short- and long-term adverse impacts on facilities, such as irrigation ditches, used to supply water to agricultural operations.	No conflict. Construction of the proposed project would occur along existing roadways. Directional boring would be used under facilities such as irrigation ditches that supply water to agricultural operations. See Section 5.2, "Agriculture and Forest Resources" for additional discussion of impacts to agricultural lands.
Policy FW-c: Projects that contain or may impact endangered and/or threatened plant or animal species, as officially designated by the California Fish and Game Commission and/or the U. S. Fish and Wildlife Service, shall be designed or conditioned to avoid any net adverse project impacts on those species.	No conflict. The proposed project would avoid and bore underneath wetlands, and would not remove trees during project construction to avoid impacts on endangered and/or threatened plant and animal species. See Section 5.4, "Biological Resources" for additional discussion of impacts on threatened and endangered species.
Policy SH-a: To protect the value of the natural and scenic character of the official scenic highway corridors and the County gateways dominated by the natural environment.	No conflict. There are no Designated or Eligible State Scenic Highways in or near the proposed project area. The proposed project would be located along a section of Shasta County Route A16 (CR A16), which is designated in the Shasta County General Plan as a corridor in which natural environment is dominant; however, project components along CR A16 would not result in a significant visual impact. See Section 5.1, "Aesthetics" for additional discussion of impacts on visual resources.

Source: Shasta County 2004

As noted in Table 5.11-2, the proposed project would not conflict with applicable policies in the Shasta County General Plan. Additionally, because the proposed project alignment would be sited entirely within road ROWs, the proposed project would be subject to conditions imposed by Shasta County relating to the issuance of encroachment permits, per Shasta County Code. For these reasons, there would be no impact.

Significance: No impact.

Mitigation Measures

Because all impacts on land use for the proposed project would be less than significant or nonexistent, no mitigation measures are required.

5.12 Mineral Resources

5.12.1 Environmental Setting

Mineral resources in Shasta County include alluvial sand and gravel, crushed stone (made of andesite, basalt, granite, limestone, and shale), volcanic cinders, diatomite, metals (e.g., cadmium, chromite, copper, iron, lead, gold, mercury, manganese, molybdenite, silver, and tungsten), and other minerals (e.g., asbestos, clay, dimension stone, graphite, olivine, sulfur, and talc); however, the only five industrial minerals currently being commercially extracted are alluvial sand and gravel, crushed stone, volcanic cinders, limestone, and diatomite (Dupras 1997).

Under the California State Surface Mining and Reclamation Act of 1975, Mineral Resource Zones (MRZs) are defined by the State Geologist and used to classify areas by level of significance as a mineral resource. The following MRZ categories are used to classify land:

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- MRZ-3: Areas containing mineral deposits, the significance of which cannot be evaluated from available data.
- MRZ-4: Areas where available information is inadequate for assignment to any other MRZ.

The entire project area is located in MRZ-4 as designated by the California Geological Survey. The MRZ-4 category indicates areas with no known occurrences of mineral resources.

There is one natural gas production well in the proposed project area. It is located on Monte Vista Road, near the intersection of Palm Avenue. The well is currently plugged (CDC 2014).

5.12.2 Regulatory Setting

Federal

There are no federal regulations regarding mineral resources that are applicable to the proposed project.

State

There are no state regulations regarding mineral resources that are applicable to the proposed project.

Local

Shasta County General Plan. The primary purpose of the Mineral Element of the Shasta County General Plan is to provide the necessary geologic information to ensure that there are adequate mineral resources available in Shasta County for at least the next 20 years.

The Shasta County General Plan does not identify any locally important mineral resources in the proposed project area (Shasta County 2004).

5.12.3 Environmental Impacts and Mitigation Measures

The impact analysis below identifies and describes the proposed project's potential impacts to mineral resources within the proposed project area. Potential impacts were evaluated according to significance criterion based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a detailed evaluation. The Shasta County General Plan does not identify locally important mineral resources in the proposed project area. There would be no impact under criterion (b), and a detailed discussion is therefore not provided.

Applicant Proposed Measures

The applicant has not incorporated APMs into the proposed project to specifically minimize or avoid impacts on mineral resources. A list of all project APMs is included in Table 4-2 in Chapter 4.

Significance Criteria

Table 5.12-1 describes the significance criteria from Appendix G of the CEQA Guidelines' mineral resources section, which the California Public Utilities Commission used to evaluate the environmental impacts of the proposed project.

Table 5.12-1 Mineral Resources Checklist

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

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

No mining operations are present on or adjacent to the proposed project area. A natural gas well is located in the project area, but it is currently plugged. The proposed project area is located in MRZ-4. The MRZ-4 category indicates areas with no known occurrences of mineral resources. However, if mineral resources were to exist in the proposed project area, the proposed project is not anticipated to result in their loss. The land in the proposed project area is significantly disturbed, and no new development is proposed. Therefore, the proposed project would not result in the loss of availability of a possible existing mineral resource that would be of value to the region and residents of the state because the proposed project would not result in new development. There would be no impact during construction or operation and maintenance under this criterion.

Significance: No impact.

1 **Mitigation Measures**

2 Because the proposed project would have no impact on mineral resources, no mitigation measures are
3 required.
4

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5.13 Noise

5.13.1 Environmental Setting

This analysis evaluates the potential for the proposed project to impact the result in potential noise and vibration impacts.

Fundamentals of Noise and Vibration

Acoustical terms used in this analysis are defined in Table 5.13-1.

Table 5.13-1 Definition of Acoustical Terms

Term	Definition
Noise	Unwanted sound, which occurs as a rapid fluctuation of air pressure above and below the atmospheric pressure. There are two important characteristics of noise: frequency and loudness. The number of pressure variations per second is called the frequency of sound and is measured in Hertz. The higher the frequency, the more high-pitched a sound is perceived to be.
Decibel (dB)	Noise is measured in terms of sound-pressure level using units called decibels (dB). Since the range of intensities that the human ear can detect is large, the scale is based in multiples of 10, the logarithmic scale. Each interval of 10 dB indicates a sound energy 10 times greater. Loudness is measured in decibels; each interval is perceived by the human ear as being roughly twice as loud.
A-weighted decibel (dBA)	The most common system used by regulatory bodies for noise measurement is the A-weighted decibel (dBA) scale. This scale measures sound as an approximate to how a person perceives or hears sound. A-weighted sound levels are typically measured or presented as the equivalent sound pressure level (L_{eq}).
Equivalent sound pressure level (L_{eq})	The average noise level, on an equal energy basis for a stated period of time. Sound levels are usually best represented by an equivalent level over a given time period (L_{eq}) or by an average level occurring over a 24-hour day-night period (L_{dn}).
Statistical noise measurement	Statistical methods are used to capture the dynamics of a changing acoustical environment. Statistical measurements are typically denoted by L_{xx} , where xx represents the percentage of time the sound level is exceeded. For example, L_{90} represents the noise level exceeded during 90 percent of the measurement period. Similarly, L_{10} represents the noise level exceeded for 10 percent of the measurement period.
Day-night average sound level (L_{dn}) noise level	The L_{dn} , or day-night average sound level, is equal to the 24-hour A-weighted equivalent sound level that is weighted to account for differences in noise levels and the perception of noise during nighttime hours (10 p.m. to 7 a.m.). Most household noise also decreases at night, however, and exterior noise becomes more noticeable.
Day-night maximum sound level (L_{max}) noise level	The L_{max} , is the highest weighted sound level over a given time.
Community noise equivalent level (CNEL)	CNEL represents the average daytime noise level during a 24-hour day, adjusted to an equivalent level to account for the lower tolerance of people to noise during evening and night time periods relative to the daytime period. CNEL is specific to California.

Noise levels in communities usually relate to the intensity of nearby human activity. Perception of noise is also influenced by existing ambient noise (e.g., a quiet rural area compared to a busy city street). Noise levels are generally considered low below 45 dBA, moderate between 45 to 60 dBA, and high above 60 dBA. In wilderness areas, the L_{dn} is usually below 35 dBA. In small towns or wooded and lightly used residential areas, the L_{dn} is more likely around 50 to 60 dBA.

The general human response to changes in noise levels that are similar in frequency content (e.g., increases in continuous $[L_{eq}]$ traffic noise levels) are summarized as follows:

- A 3-dB change in sound level is considered a barely noticeable difference.
- A 5-dB change in sound level will typically be noticeable.
- A 10-dB change is considered to be a doubling in loudness.

Another community annoyance related to noise is vibration. As with noise, vibration can be described by both its amplitude and frequency. Vibration can be felt outdoors, but the perceived intensity of vibration impacts is much greater indoors, due to the shaking of structures. Factors that influence levels of ground-borne vibration and noise are the vibration source; soil conditions (type, rock layers, soil layering, and depth of water table); and factors related to the vibration receiver (foundation type, building construction, and acoustical absorption). Human response to vibration is difficult to quantify because vibration can be perceived at levels below those required to produce any damage to structures. Table 5.13-2 shows common human and structural response to vibration levels. Human response to vibration is usually assessed using amplitude indicators (root-mean square) or vibration velocity levels measured in inches per second or in decibels (VdB). The background velocity level in residential areas is usually 50 VdB, and the human threshold of perception is 65 VdB (FTA 2006).

Table 5.13-2 Human and Structural Response to Typical Levels of Vibration

Human/Structural Response	Vibration Velocity Level (VdB)	Typical Sources
Threshold, minor cosmetic damage to fragile buildings	100	Blasting from construction projects
Difficulty with tasks (e.g., reading a screen)	90	Bulldozers and other heavy tracked construction equipment
Residential annoyance, transient events	80	Commuter rail, upper range
Residential annoyance, continuous events	70	Rapid transit, typical
Human threshold of perception and limit for vibration sensitive equipment	65	Bus or truck, typical
No human response	50	Typical background vibration

Source: FTA 2006.

Key:

VdB = decibels of vibration velocity

Ambient Noise Sources in the Proposed Project Area

The majority of the project area consists largely of rural residential and agricultural uses, surrounded by undeveloped land with forest and vegetation. Existing noise sources in the proposed project area include agricultural equipment and vehicular traffic. Table 5.13-3 lists the typical sound levels for these existing noise sources, normalized to a reference distance of 50.0 feet.

Table 5.13-3 Existing Noise Sources in the Project Area

Noise Source	Sound Level ⁽³⁾
Agricultural equipment ⁽¹⁾	56–81 dB L _{dn}
Vehicular traffic, Happy Valley Road ⁽²⁾	58 dB L _{dn}
Vehicular traffic, Olinda Road ⁽²⁾	63 dB L _{dn}

Source: Shasta County 2004; GPCAH 2014.

Notes:

⁽¹⁾ Typical agricultural equipment sound levels were obtained from the Great Plains Center for Agricultural Health.

⁽²⁾ Vehicular traffic sound levels are documented in the Shasta County General Plan.

⁽³⁾ Sound levels were normalized using the equation: $dB_x = dB_{ref} + 20 \log (d_{ref}/d_x)$, where dB_x is the decibel level at distance x , dB_{ref} is the decibel level at the reference distance, d_{ref} is the reference distance, and d_x is the distance that the desired decibel level (dB_x) is to be calculated for.

Sensitive Receptors

Noise- and vibration-sensitive receptors include residences and schools. Figure 5.13-1 shows all sensitive receptors within 1,000 feet of the proposed alignment, measured based on the distance of the proposed alignment to the physical structures (i.e., school building or house). Sensitive receptors for the proposed project include two schools and 735 residences in low-density settlement patterns. The Happy Valley Elementary School is more the 200 feet from the proposed alignment, and the Igo-Ono Elementary School is more than 600 feet south of the proposed alignment. The nearest residence is 48.2 feet from the proposed alignment and highlighted in Figure 5.13-1.

5.13.2 Regulatory Setting

Federal

The Federal Transit Administration (FTA) provides the following guidelines for construction noise and vibration thresholds along roadways:

- Greater than 90 dBA L_{eq} for daytime construction noise impacts in outdoor areas;
- Greater than 0.2 inch/second perturbation projection vector (PPV) for construction vibration damage to non-engineered timber and masonry buildings; and
- Greater than 75 VdB for human annoyance for groundborne vibration (FTA 2006).

These standards can be used as reference for noise impact analyses; however, there are no federal regulations that apply to the proposed project.

State

California Noise Control Act. Sections 46000 to 46080 of the California Health and Safety Code (i.e., the California Noise Control Act) declare excessive noise as a serious hazard to the public health and welfare and acknowledges the continuous and increasing bombardment of noise in urban, suburban, and rural areas. Furthermore, the state must provide an environment for all Californians free from noise that jeopardizes their health or welfare by protecting citizens' health and welfare through the control, prevention, and abatement of noise.

Local

Shasta County General Plan. Per Government Code Section 65302(f), the Noise element of the Shasta County General Plan is intended to guide the development of a noise-compatible land use pattern in the land use element. The following objectives are outlined in the plan.

- *N-1: To protect county residents from the harmful and annoying effects of exposure to excessive noise.*
- *N-2: To protect the economic base of the county by preventing incompatible land uses from encroaching upon existing or programmed land uses likely to create significant noise impacts.*
- *N-3: To encourage the application of state-of-the-art land use planning methodologies in the area of managing and minimizing potential noise conflicts.*

Shasta County does not have any noise ordinances, but the General Plan includes a policy for noise created by proposed non-transportation land use. Mitigation is required so the action does not exceed noise level standards measured immediately within the property line of adjacent lands designated as noise-sensitive. Tables 5.13-4 and 5.13-5 outline the county's noise level performance standards for new projects affected by, or including, non-transportation sources, as well as maximum allowable noise exposure for transportation noise sources. (Shasta County 2004)

Table 5.13-4 Noise Level Performance Standards for New Projects Affected by or Including Non-Transportation Sources¹

Noise Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L_{eq} , dB	55	50

Source: Shasta County 2004.

Note:

- 1 Transportation noise sources are defined as traffic on public roadways, railroad line operation, and aircraft in flight. Control of these noise sources is preempted by federal and state regulations. Other noise sources are presumed to be subject to local regulations, such as a noise control ordinance. Non-transportation noise sources may include industrial operations, outdoor recreation facilities, HVAC units, etc.

In rural areas where large lots exist, the exterior noise level standards shall be applied at a point 100 feet away from the residence. Industrial, light commercial, commercial, and public service facilities that have the potential to produce objectionable noise levels at nearby noise-sensitive uses are dispersed throughout the county. Fixed-noise sources that are typically of concern include, but are not limited to, air compressors, drill rigs, and heavy equipment. The majority of the proposed project area is used for agriculture, with limited residential and commercial properties dispersed throughout.

Table 5.13-5 Maximum Allowable Noise Exposure for Transportation Noise Sources

Land Use	Outdoor Activity Areas ⁽¹⁾ L_{dn} /CNEL, dB	Interior Spaces	
		L_{dn} /CNEL, dB	L_{eq} , dB ⁽²⁾
Residential	60 ⁽³⁾	45	--
Schools, Libraries, Museums	--	--	45

Source: Shasta County 2004.

Notes:

- ⁽¹⁾ Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use. Where it is not practical to mitigate exterior noise levels at patios or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.
- ⁽²⁾ As determined for a typical worst-case hour during periods of use.
- ⁽³⁾ Where it is not possible to reduce noise in outdoor activity areas to 60 dB L_{dn} /CNEL or less using a practical application of the best-available noise reduction measures, exterior noise levels of up to 65 dB L_{dn} /CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

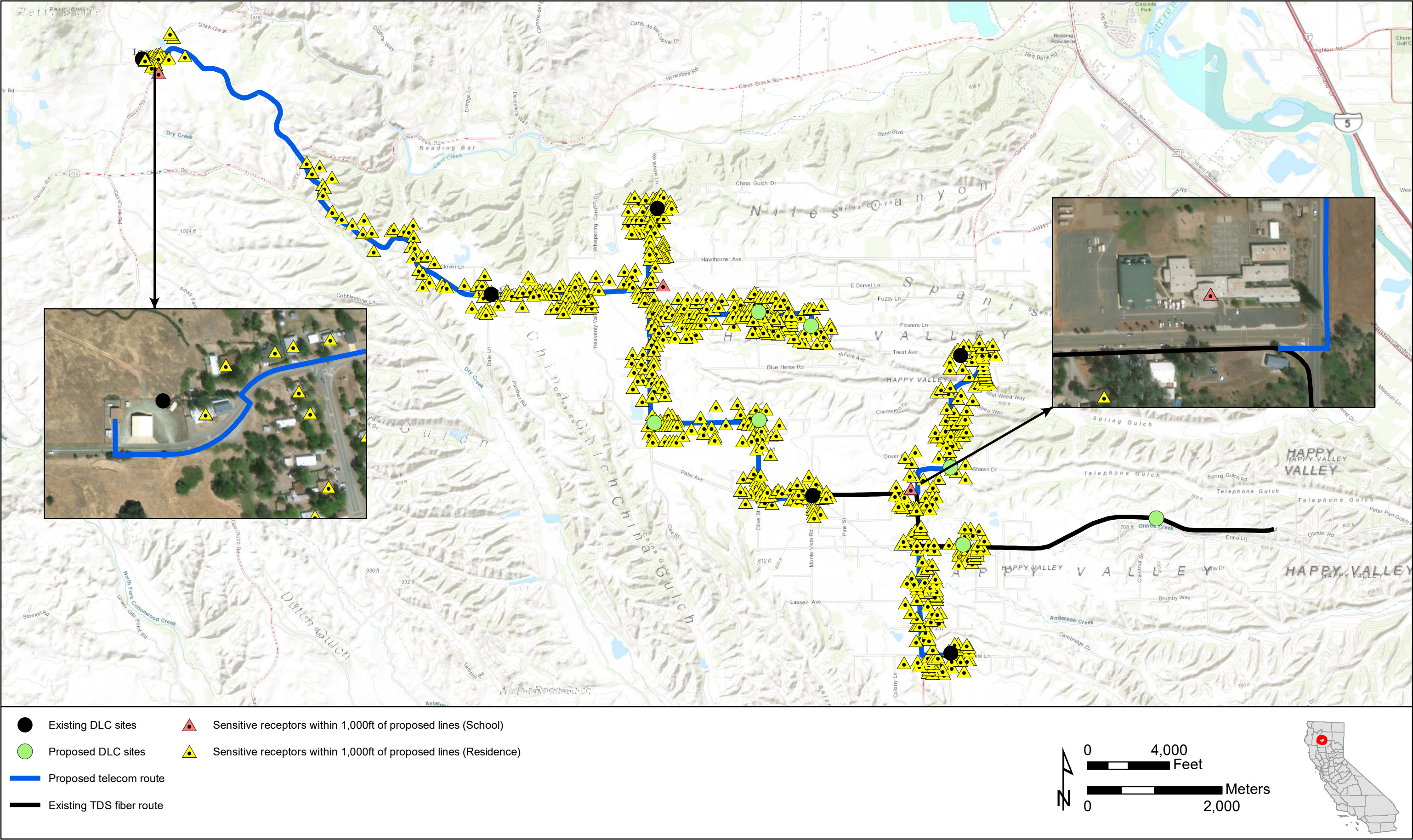


Figure 5.13-1
Sensitive Receptors within 1,000 Feet of the Proposed Alignment

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5.13.3 Environmental Impacts and Mitigation Measures

The impact analysis below identifies and describes the proposed project's potential impacts on ambient noise within the proposed project area. Potential impacts were evaluated according to significance criteria based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a more detailed evaluation. The proposed project would not be located within an airport land use plan area, within 2 miles of a public airport or public use airport, or in the vicinity of a private airstrip (the closest airstrip is 6.3 miles away). There would be no impact under criteria (c)), and a detailed discussion is therefore not provided.

Applicant Proposed Measures

The applicant would implement the following APMs to minimize or avoid potential impacts related to noise. Mitigation Measure (MM) GEN-1 requires implementation of these APMs to mitigate impacts on noise and vibration sensitive receptors and the impact analysis in this section applies these APMs to reduce impacts. A list of all project APMs is included in Table 4-2 in Chapter 4.

APM NOI-1. All construction equipment operation shall be limited to the hours of 7 a.m. to 7 p.m. Monday through Friday. No construction operations shall occur on weekends or holidays or during nighttime hours.

Significance Criteria

Table 5.13-6 describes the significance criteria from Appendix G of the CEQA Guidelines' noise checklist, which the CPUC used to evaluate the environmental impacts of the proposed project.

Table 5.13-6 Noise Checklist

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

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

Construction-related noise would be temporary, lasting an estimated 60 to 120 days. During construction, equipment operation would generate noise. Table 5.13-7 lists average maximum noise levels at 50 feet for construction equipment operating under full load conditions (i.e., maximum power output). Most of the 735 residences within 1,000 feet of the proposed alignment are more than 100 feet from the proposed alignment and would not be exposed to the maximum noise levels listed in Table 5.13-7. For the nearest sensitive receptor—a residence 48.2 feet from the proposed alignment— would be approximately 83 dBA L_{max} or 76 dBA 1-hour L_{eq} during directional boring operations, and exposure to maximum noise levels would be intermittent, given the transient nature of construction along the proposed alignment

Directional boring during construction would be used to install 5 miles of the cable alignment in 1,500-foot increments via three to four bore shots per day. Bulldozers would be used along 7 miles of the cable alignment in 1,000-foot increments. Similar noise levels would occur during plowing and trenching. On an hourly average basis, noise from directional boring operations would be within the range of ambient noise levels from agricultural operations, as described on Table 5.13-3. Exposure to maximum noise levels during construction would be intermittent and transient along the proposed alignment and would not be concentrated in one area for extended periods of time. Thus, the period of time a given residence or sensitive receptor may be subject to maximum levels would be on the order of hours, not days

Table 5.13-7 Construction Equipment Maximum Noise Levels

Equipment	Maximum Noise Level (dBA) at 50 feet ⁽¹⁾
Bulldozer	82
Directional boring machine	83
Backhoe	78
Mud sucker	81
Compact excavator	79
Medium-duty truck (5 ton)	76
Air compressor	78
Pickup	75

Source: FHWA 2011

Notes:

⁽¹⁾ Noise levels from equipment would increase or decrease with distance from the construction site at a rate of approximately 6 dBA per doubling of distance.

Shasta County does not have a construction noise ordinance. The standards described in the Noise Element of the general plan (Table 5.13-4) are not applicable for temporary construction noise. Since the proposed project would involve linear construction along existing roadways, the CPUC has selected the FTA referential construction noise threshold of 90 dBA 1-hour L_{eq} (see Section 5.13.2) for this analysis. Construction activities are characterized by variations in the power expended by equipment, with resulting variations in noise levels with time. Time-varying noise levels are converted into a single equivalent noise level (L_{eq}) for each piece of equipment during operation.

Using acoustical usage factors published by the Federal Highway Administration (FHWA), the 1-hour equivalent noise level during directional boring operations would be 76 dBA L_{eq} . This level would be below the 1-hour L_{eq} threshold of 90 dBA. Since the maximum anticipated noise level is below the FTA's threshold, and construction would not be concentrated in one area for extended periods of time, the proposed project would not result in significant exposure of persons to or generation of noise levels in excess of applicable standards.

While the proposed project would not result in generation of noise levels in excess of applicable standards established by the FTA, the applicant would also implement the following measures to minimize any noise impacts. **APM NOI-1** would limit hours for operation of all construction equipment operation to 7 a.m. to 7 p.m. Monday through Friday. Construction would not occur during nighttime hours or on weekends and holidays. Also, per **MM NOI-1**, the applicant would provide written notice to residences and landowners located within 50 feet of the proposed project alignment. The impact of the proposed project on noise would be less than significant with mitigation.

Significance: Less than significant with mitigation.

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

Plowing and trenching construction techniques used for buried line installation, as well as directional boring and general operation of construction equipment, would produce groundborne vibration. Plowing and trenching would be performed for 10.3 miles of the proposed alignment's total length (15.3 miles). Directional boring would be performed for 5 miles of the proposed alignment's total length.

At 48.2 feet, the distance of the nearest sensitive receptor, groundborne vibration—calculated for a bulldozer—would be approximately 45 VdB and 0.03 PPV, well below the FTA's threshold of 75 VdB for human annoyance and 0.2 PPV for construction vibration damage to non-engineering timber and masonry buildings. Since groundborne vibration would be well below FTA thresholds, the proposed project would have a less than significant impact.

The fiber-optic telecommunications cable (telecom line) would be buried along existing roads; therefore, operation of the proposed project would not result in any groundborne vibration or groundborne noise levels. The occasional maintenance activities performed by the applicant at the DLC sites would not generate groundborne vibration or groundborne noise levels since these activities would not involve the use of heavy duty equipment or vehicles.

Significance: Less than significant.

Mitigation Measures

See Section 5.43, "Biological Resources Air Quality" for **MM GEN-1**.

MM NOI-1 Notify Local Landowners of Construction Activities. The applicant shall provide written notice to residences and landowners located within 50 feet of proposed project alignment at least within five days of commencement of construction activities at the street where works will occur. The notice shall state the date of planned construction activity in proximity to that landowner's property and the range of hours during which maximum noise levels may be anticipated.

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5.14 Population and Housing

5.14.1 Environmental Setting

Population

Population data is limited for the unincorporated area of Shasta County where the proposed project would be located; however, an estimate of population change within unincorporated Shasta County, which includes the unincorporated communities of Happy Valley, Olinda, and Igo, and the surrounding area, is available for 2010 to 2017 by forecast. Additional data for the county and its unincorporated areas was obtained using population estimates for cities, counties, and state from the California Department of Finance and by subtracting the population within incorporated cities from the county total; the difference was estimated to be the population of unincorporated areas by year.

The California Department of Finance data also shows the annual percentage change for population minus exclusions (exclusions include residents on federal military installations and group quarters residents in state mental institutions, state and federal correctional institutions, and veteran homes) in unincorporated areas in Shasta County decreased approximately (0.1) percent from 2015 to 2016 (CDF 2017). Table 5.14-1 shows population patterns for the city of Anderson, city of Redding, city of Shasta Lake, Shasta County unincorporated areas, and Shasta County as a whole from 2013 to 2016.

Table 5.14-1 Population Trends in Shasta County (Estimate 2013-2016)

Year	Population	Change in Population from 2013	Percent Change from 2013 (rounded to nearest 0.5%)
City of Anderson			
2013	10,359	0	-
2014	10,442	83	1%
2015	10,494	135	1.5%
2016	10,423	64	0.5%
City of Redding			
2013	90,192	0	-
2014	90,461	269	0.5%
2015	90,678	486	0.5%
2016	90,341	149	0%
City of Shasta Lake			
2013	10,355	0	-
2014	10,390	55	0.5%
2015	10,434	79	1%
2016	10,356	1	0%
Shasta County, Unincorporated Areas			
2013	67,755	0	-
2014	67,774	19	0%
2015	67,706	-49	0%
2016	67,112	-643	-1%
Shasta County			
2013	178,661	0	-
2014	179,067	406	0%
2015	179,312	651	0.5%
2016	178,232	-429	0%

Source: CDF 2017.

The California Department of Finance provides a trend line showing population change from a historical context year for years 2010 to 2016. The total population of unincorporated Shasta County decreased by 154 to 67,112 from 2010 to 2016, as shown below in Figure 5.14-1.

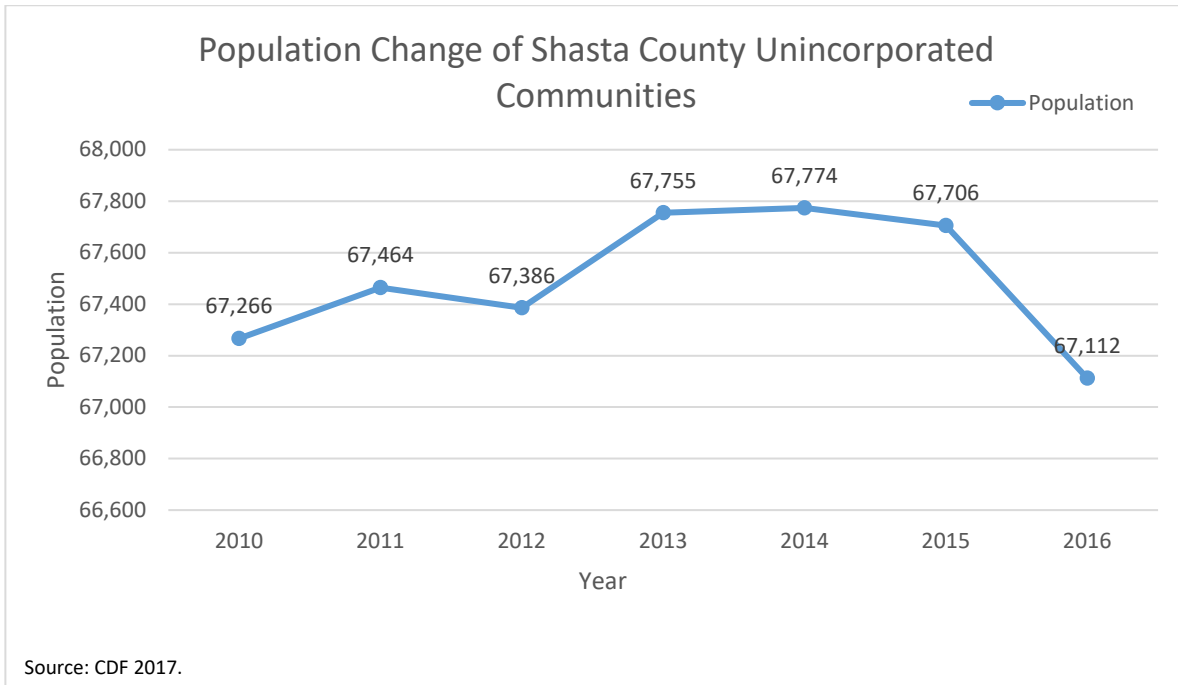


Figure 5.14-1 Population Change of Shasta County Unincorporated Communities.

Housing

A housing unit is defined by the U.S. Census Bureau as a house, apartment, mobile home, group of rooms, or single room that is occupied (or if vacant, is intended for occupancy) as separate living quarters. Separate living quarters are those in which occupants live and eat separately from any other person in the building and that have direct access from the outside of the building or through a common hall. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated persons who share living arrangements (U.S. Census Bureau 2017).

The Housing Element of the Shasta County General Plan addresses the housing needs of residents within the unincorporated areas of the county, including Happy Valley, Igo, and the Olinda unincorporated communities. According to the Shasta County General Plan Housing Element, in 2000, there were approximately 24,560 households within the unincorporated portion of Shasta County, which represented approximately 39 percent of all households in the county (Shasta County 2004). Furthermore, despite an increased number of households between 1990 and 2000, the average household size in the county declined slightly during this period. Thus, overall household growth has been slightly outpacing population growth.

Future Housing Needs

The State Department of Housing Community Development (HCD) determines housing construction needs for the state based on projected growth in population, employment, and households. Regional Councils of Government allocate housing needs among cities through the Regional Housing Needs Allocation (RHNA), a state-mandated process devised to distribute planning responsibility for housing need throughout the State of California. The regional housing needs by income category for the

unincorporated portion of Shasta County, as shown by Table 5.14-2, is allocated by the HCD and currently covers a time period from 2014-2019.

**Table 5.14-2 Unincorporated Shasta County
Housing Allocation by Income
Category (2014–2019)**

Income Group	Housing Shares (units)
Very-Low	189
Low	117
Moderate	128
Above-Moderate	321
Total	755

Source: SCPD 2012.

Shasta County Housing Community Development adopted its final RHNA plan in June 2012 for the planning period of January 2014 through June 2019. Housing allocation needs for the unincorporated communities are not subdivided from this. Based on the Shasta County Local Governments' 2012 Regional Housing Needs, the unincorporated areas of the county have been allocated a total of 755 units. The unincorporated area's allocation of very low income units (25.0 percent) is nearly the same as the county average (24 percent), and the allocation of above-moderate income units (43 percent) is similar to the county average (43 percent). (SCPD 2012)

5.14.2 Regulatory Setting

Federal

There are no federal regulations applicable to the proposed project with respect to population and housing.

State

There are no state regulations applicable to the proposed project with respect to population and housing.

Local

Shasta County General Plan. The Housing Element of the Shasta County General Plan provides policy direction for overall housing for the county. The purpose of Shasta County's General Plan Housing Element includes addressing the housing needs of residents within unincorporated areas of the county. Since the proposed network infrastructure would be installed in utility easement within public right-of-way, the proposed project would not directly affect existing residential use and land zoned to accommodate such uses. Therefore, no conflicts with estimated population and housing policies are anticipated.

5.14.3 Environmental Impacts and Mitigation

The impact analysis below identifies and describes the proposed project's potential impacts on population and housing within the proposed project area. Potential impacts were evaluated according to significance criteria based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a detailed evaluation.

Applicant Proposed Measures

The applicant has not incorporated APMs to specifically minimize or avoid impacts on population and housing. A list of all project APMs is included in Table 4-2 in Chapter 4.

Significance Criteria

Table 5.14-3 describes the significance criteria from Appendix G of the CEQA Guidelines' population and housing section, which the California Public Utilities Commission used to evaluate the environmental impacts of the proposed project.

Table 5.14-3 Population and Housing Checklist

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

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

The proposed project would involve installation of telecommunications infrastructure—including over 80,000 feet of fiber optic cable and seven equipment cabinets—to provide high-speed internet service to the communities of Igo, Olinda, and Ono in Shasta County. The proposed project components do not include construction of residential, commercial, or other land uses that would directly increase population. Construction is anticipated to last 60 to 120 days, and work would occur in phases, with some overlap in work activity. For any given portion of the proposed alignment, directional boring would occur prior to that portion being plowed or trenched. A splice crew would follow and connect portions of fiber-optic line together. Following construction of a portion of the alignment, a crew would perform site clean-up and surface restoration. Thus, construction crews are expected to be composed of a maximum of 22 people on site at any given time. Due to the short duration of construction and the number of workers, it is expected that construction jobs would be filled primarily by local or regional residents. For these reasons, construction of the proposed project would not induce substantial population growth in the area. Once in operation, maintenance activities associated with the proposed project would occur only occasionally and require few personnel, such as TDS technicians at the DLC sites to check on equipment and connect or disconnect customers. As described in Chapter 4.0, Project Description, the project's objective is to make affordable broadband Internet services available to currently underserved areas within the proposed project area. While the proposed project is meant to serve existing residents, an extension of infrastructure could indirectly accommodate future growth by providing new telecom infrastructure to an area that previously did not have access. Therefore, the proposed project would be less than significant under this criterion.

Significance: Less than significant.

1 **b. *Would the project displace substantial numbers of existing people or housing, necessitating the***
2 ***construction of replacement housing elsewhere?***
3

4 Installations associated with the proposed project would occur along Shasta County roads and some
5 private roadways and would not displace any people or existing housing. Accordingly, the
6 implementation of the project would not require the construction of replacement housing elsewhere.
7 Therefore, the proposed project would have no impact under this criterion.
8

9 **Significance: No impact.**
10

11 **Mitigation Measures**

12 Because all population and housing impacts related to the proposed project would be nonexistent, no
13 mitigation measures are required.
14

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5.15 Public Services

5.15.1 Environmental Setting

Fire Protection

Fire protection for the unincorporated Shasta County communities is provided by Battalion 4 of the Shasta County Fire Department, which consists of three Shasta County Volunteer Fire Companies (VFCs)—VFC 32 Palo Cedro, VFC 54 Lakehead, and VFC 55 West Valley—the Shasta County Fire Department Palo Cedro Station 32, and the California Department of Forestry and Fire Protection (CAL FIRE) Redding Station 43. VFC 50 Igo-Ono is also in the vicinity of Happy Valley and the proposed project area (SCFD 2018).

The service area of Battalion 4 is located in Redding and is interspersed with two other incorporated cities: Anderson and Shasta Lake. There are three unincorporated communities within the battalion, which are served by the independent fire districts of Mountain Gate, Happy Valley, and Cottonwood. The northern portion of Battalion 4 north of Shasta Lake lies within Federal Direct Protection Areas and is administered by the U.S. Forest Service (USFS), Shasta-Trinity National Forest. While the statutory responsibility for all wildland fires on these lands rests with the USFS, the protection responsibility for all medical aids, traffic collisions, hazardous conditions, and fires involving boats, automobiles, structures, and other improvements is served by the Shasta County Fire Department (SCFD), administered by CAL FIRE under contract.

The closest fire station to the proposed project area is the Happy Valley Fire Department, situated immediately adjacent to a central segment of the proposed project area, at 17441 Palm Avenue in Anderson.

Police Protection

The Shasta County Sheriff's Department (SCSD), located at 300 Park Marina Circle in Redding approximately 7.8 miles north of the proposed underground fiber-optic cable (telecom line) route provides police protection services to the unincorporated communities and areas of Shasta County. The nearest police station to the proposed project area is the Anderson Police Department, located at 220 North Street in Anderson, approximately 5.5 miles east of the proposed underground telecom line route.

Schools

The Happy Valley Union School District, Igo-Ono-Platina Union School District, and Anderson Union High School District provide school services for students in the Happy Valley, Olinda, and Igo areas. The Happy Valley Community Day School, Happy Valley Elementary School, and Happy Valley Primary School are the closest schools to the proposed project area. The Happy Valley Union School District consists of two elementary schools and one middle school. The Igo-Ono Platina Union School District consists of two elementary schools. The Anderson Union School District consists of five high schools and one adult school.

The following schools are near the proposed project area:

- Adult School(s)
 - Anderson Adult School – Approximately 3 miles east of a proposed TDS node/DLC facility and 5 miles east of the proposed underground telecom line route.
- High School(s)

- Anderson Union High School – Approximately 3 miles east of a proposed TDS node/DLC facility and 5.2 miles east of the proposed underground telecom line route.
- Anderson New Technology High School – Approximately 3.5 miles east of a proposed TDS node/DLC facility and 5.5 miles east of the proposed underground telecom line route.
- North Valley Continuation High School – Approximately 3.1 miles east of a proposed TDS node/DLC facility and 5.1 miles east of the proposed underground telecom line route.
- Oakview High School – Approximately 3.1 miles east of a proposed TDS node/DLC facility and 5.1 miles east of the proposed underground telecom line route.
- West Valley high School – Approximately 1.9 miles north of the proposed underground telecom line route.
- Middle School(s)
 - Happy Valley Community Day School – Approximately 260 feet east of the proposed underground telecom line route.
- Elementary School(s)
 - Happy Valley Union Elementary School – Approximately 260 feet east of the proposed underground telecom line route.
 - Happy Valley Primary School – Approximately 260 feet west of the proposed underground telecom line route.
 - Igo-Ono Elementary School – Approximately 900 feet south of the proposed underground telecom line route.
 - Platina Elementary School – Approximately 20 miles west of the proposed underground telecom line route.

Parks

Several parks are near the proposed project area, all located in the vicinity of the northwestern portion of the proposed project; the closest are:

- Clear Creek Greenway and Horsetown Creek – Approximately 50 feet north and south of the proposed underground telecom line route;
- Clear Creek Gorge Overlook – Approximately 0.85 miles east of the proposed underground telecom route;
- Mule Ridge Trails – Approximately 1 mile north of the proposed underground telecom route; and
- Whiskeytown National Recreation Area – Approximately 3.3 miles north of the proposed underground telecom line route (BLM n.d.; Shasta County 2009).

Other Public Facilities

Shasta County operates three public libraries. The library facility that is closest to the proposed project area is the Anderson Library located at 3200 West Center Street in Anderson, approximately 3.3 miles east of a proposed TDS node/DLC facility and 5.2 miles east of the proposed underground telecom line route. Library hours are Tuesday through Friday 9:00 a.m. to 6:00 p.m., and Saturday 10:00 a.m. to 2:00 p.m. This branch is closed Sunday and Monday.

The closest medical facility to the proposed project area is the Happy Valley Family Health Center, located at 16300 Cloverdale Road in Happy Valley, approximately 200 feet east of the proposed underground telecom line route.

5.15.2 Regulatory Setting

Federal

There are no relevant federal regulations relating to public services in the proposed project area.

State

California Public Utilities Commission. The CPUC regulates private companies providing public utility services throughout the state of California. The CPUC's utility regulatory services and regulations extend to the telecommunications services in the proposed project area and are maintained throughout the CEQA process for new utility planning and construction procedures.

California Fire Code. The California Fire Code establishes baseline safety and regulatory measures intended to protect the public against the hazards associated with fire. Chapter 33 of the California Fire Code focuses on fire safety measures during construction and demolition.

- California Fire Code, Part 9, Chapter 33: Fire Safety During Construction and Demolition, Section 3304: Precautions Against Fire.
 - 3304.2 *Combustible debris, rubbish and waste: Combustible debris, rubbish and waste material shall comply with the requirements of Sections 3304.2.1 through 3304.2.4.*
 - 3304.2.3 *Rubbish containers: Where rubbish containers with a capacity exceeding 5.33 cubic feet (40 gallons) (0.15 m³) are used for temporary storage of combustible debris, rubbish and waste material, they shall have tight-fitting or self-closing lids. Such rubbish containers shall be constructed entirely of materials that comply with either of the following:*
 1. *Noncombustible materials.*
 2. *Materials that meet a peak rate of heat release not exceeding 300 kW/m² when tested in accordance with ASTM E1354 at an incident heat flux of 50kW/m² in the horizontal orientation.*
 - 3304.2.4 *Spontaneous ignition: Materials susceptible to spontaneous ignition, such as oily rags, shall be stored in a listed disposal container.*
 - 3304.3 *Burning of combustible debris, rubbish and waste: Combustible debris, rubbish and waste material shall not be disposed of by burning on the site unless approved.*
 - 3304.5 *Fire watch: Where required by the fire code official for building demolition, or building construction during working hours that is hazardous in nature, qualified personnel shall be provided to serve as an on-site fire watch. Fire watch personnel shall be provided with not less than one approved means for notification of the fire department and their sole duty shall be to perform constant patrols and watch for the occurrence of fire.*
 - 3304.7 *Electrical: Temporary wiring for electrical power and lighting installations used in connection with the construction, alteration or demolition of buildings, structures, equipment or similar activities shall comply with the California Electrical Code.*
- California Fire Code, Part 9, Chapter 33: Fire Safety During Construction and Demolition, Section 3310: Access for Fire Fighting.
 - 3310.1 *Required access: Approved vehicle access for fire fighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet (30,480 mm) of temporary or permanent fire department connections. Vehicle access shall be provided by either temporary or permanent roads, capable of supporting vehicle loading under all weather conditions. Vehicle access shall be maintained until permanent fire*

apparatus access roads are available.

- California Fire Code, Part 9, Chapter 33: Fire Safety During Construction and Demolition, Section 3316: Motorized Construction Equipment
 - *3316.1 Conditions of use: Internal-combustion-powered construction equipment shall be used in accordance with all of the following conditions:*
 1. *Equipment shall be located so that exhausts do not discharge against combustible material.*
 2. *Exhausts shall be piped to the outside of the building.*
 3. *Equipment shall not be refueled while in operation.*
 4. *Fuel for equipment shall be stored in an approved area outside of the building*

Local

Shasta County General Plan The following objective and policies in Section 7.5 of the Shasta County General Plan (2004) pertain to public facilities and are relevant to the proposed project:

- *Objective PF-4: Development of a land use pattern which can be adequately served with community facilities such as schools, libraries, and community recreation.*
- *Policy PF-a: Shasta County shall take appropriate actions for achieving objective PF-4. Every opportunity for interjurisdictional and interagency cooperation in other areas shall be encouraged to this end.*
- *Policy PF-h: Public uses (e.g. schools, parks, waste disposal sites) and public utilities (e.g. substation, transmission lines) whose site-specific locations often cannot be identified in advance by the General Plan may be permitted throughout the County to serve the public need. Appropriate zoning on site-specific locations will be determined in response to the identified need as it occurs. Solid waste disposal facilities shall be conditionally permitted to ensure that the site is compatible with adjacent land uses. Surrounding land uses, to the extent feasible, shall be regulated to avoid incompatibility with the solid waste disposal facilities.*

5.15.3 Environmental Impacts and Assessment

The impact analysis below identifies and describes the proposed project's potential impacts on public services within the proposed project area. Potential impacts were evaluated according to significance criteria based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a more detailed evaluation.

Applicant Proposed Measures

The applicant has not incorporated APMs to specifically minimize or avoid impacts on public services. A list of all project APMs is included in Table 4-2 in Chapter 4.

Significance Criteria

Table 5.15-1 describes the significance criteria from Appendix G of the CEQA Guidelines' public services section, which the CPUC used to evaluate the environmental impacts of the proposed project.

Table 5.15-1 Public Services Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

a. Fire Protection

The SCFD provides fire service. The proposed project would include the construction and installation of a new high-speed broadband fiber-optic cable, seven new DLC sites, and renovation of up to six existing DLC sites in the proposed project area. However, the SCFD already has significant resources in place in the proposed project area, as residential houses and commercial businesses populate it. Because of the well-known risk of fires in California, Shasta County has ensured there is more than adequate fire protection in neighborhoods under its jurisdiction. Moreover, construction activities for the proposed project could pose fire risks through both equipment hazards and brushfire hazards associated with vegetation removal. However, the applicant would address brushfire risks by minimizing tree trimming and vegetation clearing during project construction, thereby minimizing the amount of vegetative fuel in the proposed project area. Since no new housing would be constructed as a result of the proposed project, and therefore no new residents added to the communities of Happy Valley, Olinda, and Igo, the proposed project would not represent a potential need for expanded fire protection in the area, or affect service and response times. Therefore, impacts on fire service would be less than significant.

Operation and maintenance of the proposed project would require minimal personnel and limited equipment. It would not require new or expanded fire protection services. Because the proposed project would not provide new or altered fire protection facilities or create a need for new or altered fire protection facilities, it would not substantially alter performance objectives for fire protection during operation and maintenance.

Significance: Less than significant.

b. Police Protection?

The SCSD provides police protection for the proposed project area. The SCSD already provides police services in the proposed project area, and the nature of those services would not change as a result of the

proposed construction and installation of affordable broadband Internet services to currently underserved areas in Happy Valley, Olinda, and Igo. Further, it is unlikely that additional deputies would be needed in the project area. The proposed project would not provide new or altered police protection facilities or create a need for new or altered police protection facilities, nor would it substantially alter performance objectives for police protection; therefore, the proposed project would have no impact on police protection.

Significance: No Impact.

c. Schools?

The Happy Valley Union School District, Igo-Ono-Platina Union School District, and the Anderson Union High School District provide school services for students in the Happy Valley, Olinda, and Igo areas. Since no new housing would be constructed as a result of the proposed project, and therefore no new residents added, the proposed project would have no impact on schools in the proposed project area.

Significance: No Impact.

d. Parks?

Parks identified near the proposed project area are Horsetown Clear-Creek Preserve, the Whiskeytown National Recreation Area, the Mule Ridge Trails, and the Clear Creek Gorge Outlook. The proposed underground telecom line route and DLC sites would be installed in utility corridors, and no construction or staging would occur in parks, recreation areas, or access to natural areas or trailheads. Construction crews would be local and relatively small in number. Furthermore, since no new housing would be constructed as a result of the proposed project, and therefore no new residents added, the proposed project would not create a need for new or altered park facilities, and it would not substantially alter performance objectives for parks. The proposed project would have no impact on parks in the proposed project area.

Significance: No impact.

e. Other Public Facilities?

Since no new housing would be constructed as a result of the proposed project, and therefore no new residents added to the communities in the proposed project area, the proposed project would have no impact on libraries or medical facilities in the area. There are no other aspects of public services that would be impacted by the proposed project.

Significance: No Impact.

Mitigation Measures

Because all public services impacts related to the proposed project would be less than significant or nonexistent, no mitigation measures are required.

5.16 Recreation

5.16.1 Environmental Setting

The northwestern portion of the proposed project area would run adjacent to multiple recreation areas, including open space preserves that form a near-contiguous natural area, namely the Clear Creek Greenway, Horsetown Clear-Creek Preserve, Whiskeytown National Recreation Area, Mule Ridge Trails, Swasey Recreation Area, Cloverdale Trails, and Clear Creek Gorge Overlook. The Clear Creek Greenway, Swasey Recreational Area and Mule Ridge Trails trail map, produced by the Bureau of Land Management, Redding Field Office, depicts the orientation of these near-contiguous natural areas near the proposed project area (BLM n.d.). Portions of the Clear Creek Greenway, Horsetown Clear-Creek preserve, Mule Ridge Trails, and Cloverdale Trails are adjacent to, or 1 mile or less from the proposed project alignment. Whiskeytown National Recreation Area and Swasey Recreation Area are both located approximately 3 miles from the proposed project alignment.

Recreational activities at the Clear Creek Greenway, Swasey Recreation Area, Horsetown Clear-Creek Preserve, Cloverdale Trails, and Mule Ridge Trails include hiking, walking, bicycling, horseback riding, and other passive outdoor activities. The Cloverdale Trailhead, situated along the proposed project alignment on Cloverdale Road, is a staging area that provides access for recreationists to the Clear Creek Greenway. Hunting is prohibited at the Horsetown Clear-Creek Preserve, but is permitted in designated areas throughout the Clear Creek Greenway, Mule Ridge Trails, and Swasey Recreation Area. Recreational activities at the Whiskeytown National Recreation Area include hiking, boating, hunting within designated areas, camping, and other passive recreation activities (NPS 2017, 2018). The recreation areas are listed in Table 5.16-1, along with their respective managing agencies and their approximate distance from the closest point of the proposed project.

Table 5.16-1 Recreational Areas Near the Proposed Project Route

Recreational Area	Managing Agency	Approximate Distance from Project (Closest Point)
Clear Creek Greenway	Bureau of Land Management	Adjacent
Horsetown Clear-Creek Preserve	Horsetown Clear-Creek Preserve (private, nonprofit)	0.5 mile
Whiskeytown National Recreation Area	National Park Service	3.3 miles
Mule Ridge Trails	Bureau of Land Management	1.0 mile
Clear Creek Gorge Overlook	California Department of Fish and Game	0.85 mile
Swasey Recreation Area	Bureau of Land Management	2.75 miles
Cloverdale Trails	Bureau of Land Management	Adjacent

Source: BLM n.d.

5.16.2 Regulatory Setting

Federal

There are no federal regulations applicable to the proposed project area with respect to recreation.

State

There are no state regulations applicable to the proposed project area with respect to recreation.

Local

Shasta County General Plan. The Shasta County General Plan contains multiple objectives pertaining to recreational land and facilities. The proposed project would not conflict with any of the policies described in the general plan. (Shasta County 2004)

Shasta County Parks, Trails, and Open Space Plan. The 2009 Shasta County Parks, Trails, and Open Space Plan provides an update to the Shasta County General Plan, with a focus on identifying the issues and opportunities for improving the provision of parks, trails, and open space in Shasta County. The plan recommends policies to maximize the environmental sustainability, economic vitality, and community health through expansion and improvement of parks, trails, and open spaces, such as requiring setbacks or buffers to protect sensitive lands from development. The proposed project would not conflict with any measures described in the Shasta County Parks, Trails, and Open Space Plan (Shasta County 2009).

5.16.4 Environmental Impacts and Assessment

The impact analysis below identifies and describes the proposed project's potential impacts on recreation within the proposed project area. Potential impacts were evaluated according to significance criteria based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a more detailed evaluation. The proposed project would not include recreation facilities or require the construction or expansion of recreation facilities. There would be no impact under criterion (b), and a detailed discussion is therefore not provided.

Applicant Proposed Measures

The applicant has not incorporated APMs to specifically minimize or avoid impacts on recreation. A list of all project APMs is included in Table 4-2 in Chapter 4.

Significance Criteria

Table 5.16-2 describes the significance criteria from Appendix G of the CEQA Guidelines' recreation section, which the CPUC used to evaluate the environmental impacts of the proposed project.

Table 5.16-2 Recreation Checklist

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

1 *a. Would the project increase the use of existing neighborhood and regional parks or other recreational*
2 *facilities such that substantial physical deterioration of the facility would occur or be accelerated?*
3

4 Construction crews are expected to be composed of a maximum of 22 workers on site at any given time.
5 Crews would be hired locally, so there would be no influx of large groups of workers from outside of the
6 region. Construction work on the project is anticipated to be conducted in 10-hour work days, Monday
7 through Friday. Because construction crews would only temporarily occupy each segment of the proposed
8 project area before moving to install additional segments, no single recreation area is expected to experience
9 prolonged increased usage by construction crews. Because population growth during construction would not
10 be substantial, the project would not increase the use of existing neighborhood and regional parks or other
11 recreational facilities such that substantial physical deterioration of facilities would occur or be accelerated.
12 Once installed, the fiber optic system would require minimal maintenance. Any required maintenance
13 activities would be temporary and would not require access to parks or recreational facilities. Therefore,
14 project impacts associated with construction activities and operation and maintenance would be less than
15 significant with regards to recreation.
16

17 **Significance: Less than significant.**
18

19 **Mitigation Measures**

20 Because all impacts on recreation for the proposed project would be less than significant or no impact, no
21 mitigation measures are required.
22

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5.17 Transportation

5.17.1 Environmental Setting

Existing Roadway Network

The roadway network in the region of the proposed project area consists of Interstate 5 (I-5) through the center of the county, state highways, and local roads within unincorporated Shasta County. The proposed project is located west of I-5 and southwest of Redding, California.

Roadway Network. Major transportation routes near the proposed project are limited. I-5 is located through the center of Shasta County and east of the proposed project. Daily traffic volumes on I-5 near the proposed project area range from 43,500 to 58,000 vehicles (Caltrans 2015). State Route 273 (SR 273) serves as a secondary north-south route in Redding between the proposed project and I-5. Traffic volumes on SR 273 near the proposed project range from 10,500 to 14,300 vehicles trips per day (Caltrans 2016). Shasta County's Title 12, Road District county code 12.04.030 states, "all the unincorporated territory and area of the county shall be, and here is, constituted to be one road district" (Shasta County 2018). The proposed project is located within the existing right-of-way (ROW) of the road district. Local roadways where the proposed project would be located within the ROW are listed below.

- | | |
|---------------------|--------------------|
| • China Gulch Drive | • Oak Street |
| • Cloverdale Road | • Olinda Road |
| • Coyote Lane | • Olive Street |
| • Craig Lane | • Palm Avenue |
| • Ditch Grade | • Scout Avenue |
| • Happy Valley Road | • Serendipity Lane |
| • Laverne Lane | • South Fork Road |
| • Monte Vista Road | • Treat Avenue |

Public Transit. The Redding Area Bus Authority provides transit service primarily within Redding and with some service provided in nearby unincorporated areas of Shasta County. Additional routes operated by the Redding Area Bus Authority provide service between Redding and Burney, and within the city of Anderson. None of the Redding Area Bus Authority routes are located near or include scheduled stops near the proposed project (Redding Area Bus Authority n.d.). No rail lines would be crossed by the proposed project.

Air Transportation. The Redding Municipal Airport is located approximately 5 miles east of the nearest proposed underground fiber-optic cable (telecom line) route segment. Benton Field is located approximately 5.5 miles north of the nearest proposed underground telecom line route segment. The proposed project would be outside of any potential imaginary slope extending from these runways, as defined by the Federal Aviation Administration (FAA) (14 Code of Federal Regulations [CFR] 77).

Pedestrian Facilities. The walkability of existing facilities is based on the availability of pedestrian routes necessary to accomplish daily tasks without the use of an automobile. There are generally no sidewalks present in the proposed project area due to its rural setting and low-density settlement pattern. Furthermore, there are limited business facilities in the proposed project area.

Bicycle Facilities. Bicycle lanes are a component of street design with dedicated striping, separating vehicular traffic from bicycle traffic and offering a safer environment for both cyclist and motorist. Bicycle routes are identified as bicycle friendly streets where motorists and cyclists share the roadway, and there is no dedicated striping of a bicycle lane. Bicycle routes are preferably located on collector and lower volume arterial streets.

The 2015 Regional Transportation Plan for Shasta County classifies bicycle facilities based on a standard typology, which is described in further details below:

Class I – A dedicated non-motorized facility, paved or unpaved, physically separated from motorized vehicular traffic by an open space or barrier.

Class II – A bike lane on a roadway, delineated by pavement striping, markings, signing for the preferential or exclusive use of bicyclist.

Class III – A bike route designated by the jurisdiction having authority, with appropriate directional and informational markers, but without striping, signing and pavement markings for the preferential or exclusive use of bicyclists.

Class IV – A roadway not designated by directional and informational markers, striping, signing or pavement markings for the preferential or exclusive use of bicyclists, but that provides appropriate bicycle-friendly design standards such as wide-curb lanes and bicycle safe drain grates.

The Shasta County Bike Plan identifies existing and planned bikeways throughout the county. Class II bike lanes on the proposed underground telecom line route are present in Happy Valley Road between Olinda Road and Palm Avenue. The proposed Happy Valley Road Bikeway Corridor includes Happy Valley Road from Gas Point Road to Hawthorne Avenue. In addition, Class II bike lanes are proposed for Cloverdale Road from Placer Road to Oak Street, on Palm Avenue from Oak Street to Happy Valley Road, and on Olinda Road from Happy Valley to the Anderson City line (Shasta County 2010).

5.17.2 Regulatory Setting

Federal

There are no relevant federal regulations applicable to the proposed project relating to transportation and traffic.

State

California Department of Transportation. The California Department of Transportation (Caltrans) is responsible for overseeing state highways within California. Caltrans has the discretionary authority to issue special permits for the movement of vehicles or loads exceeding statutory limitations on the size, weight, and loading of vehicles contained in Chapters 1 to 5 of Division 15 Size, Weight, and Load of the California Vehicle Code. Completion of a Transportation Permit application is required for requests for such special permits (Caltrans 2016). Relevant transportation policies and ordinances are presented in Table 5.17-1.

Table 5.17-1 Relevant Transportation Policies and Ordinances

Policy	Description
California Department of Transportation	
Oversize Vehicles	A special permit must be obtained to operate or move a vehicle or combination of vehicles or special mobile equipment of a size or weight of vehicle or load exceeding the maximum limitations on state highways. Maximum limitations are generally as follows: width = 102 inches, height = 14 feet, length = 75 feet, weight = 80,000 lbs. ¹
Target LOS Standard	LOS C. ²
Shasta County	
Work in public ROW	An encroachment permit, subject to Chapter 5.5, Section 1450, Division 2 of the Streets and Highways Code of California, from the Public Works Director is required prior to excavation in any county highway. ³
Oversize Vehicles	A transportation permit must be obtained from the Public Works Director to operate overweight or oversize vehicles on roads maintained by Shasta County. ⁴
Target LOS Standard	LOS C. New development which may result in exceeding LOS E shall demonstrate that all feasible methods of reducing travel demand have been attempted to reach LOS C. ⁵
Congestion Management Program	No regionally significant corridors are located within the proposed project area. The LOS planning threshold is LOS C in Shasta County. ⁶

Sources:

¹ California Vehicle Code Section 35100-35111, 35250-35252, 35400-35414, and 35550-35558 and Streets and Highways Code Section 670-695

² Caltrans 2002

³ Shasta County 2012

⁴ Shasta County n.d.

⁵ Shasta County 2004

⁶ SRTA 2015

Key:

lbs pounds

LOS Level of Service

Local

Regional Transportation Plan for Shasta County. The Shasta Regional Transportation Agency is the designated metropolitan planning organization and regional transportation planning agency for Shasta County and is responsible for developing the Regional Transportation Plan. The Regional Transportation Plan serves as a guide for developing a regional intermodal transportation system that is coordinated with local land use planning. Regional transportation projects must be included in the plan to be eligible for federal and state funding. The plan also serves as the congestion management program for Shasta County. Regionally significant corridors identified in the plan include I-5 and SR 273. There are no regionally significant corridors within the proposed project area. The plan identifies the level of service (LOS) threshold as “LOS C.”

The regional transportation plan also includes a number of proposed improvements in the proposed project area to increase safety and capacity. Potential projects include:

- Shoulder widening and realignment along Happy Valley Road from Palm Avenue to Warwick Street;
- Shoulder Widening along Olinda Road from Sammy Lane and Red Leaf Lane; and
- Installation of roundabout/signal at intersection of Canyon Road and China Gulch Drive.

Shasta County General Plan and Municipal Codes. The Circulation Element of the Shasta County General Plan includes several policies relevant to the local plans and municipal codes were reviewed for goals and policies related to the proposed project. Relevant transportation policies and ordinances are presented in Table 5.17-1.

Shasta County permits co-locating telecommunication infrastructure within public roadways through encroachment permits. The encroachment permit process conditions and regulates construction (e.g., trenching, grading, erosion control, etc.) to meet established engineering and safety standards and avoid indirect impacts outside of the construction zone. See Section 5.10, “Land Use and Planning,” for further details.

5.17.3 Environmental Impacts and Mitigation

The impact analysis below identifies and describes the proposed project’s potential impacts on transportation and traffic within the proposed project area. Potential impacts were evaluated according to significance criteria based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a more detailed evaluation. On December 28, 2018, the California Natural Resources Agency adopted the revised CEQA guidelines. This update included a shift in how transportation impacts are analyzed, by switching the threshold of significance from level of service (LOS) to vehicles miles traveled (VMT). Although the checklist questions below are revised, lead agencies have until July 1, 2020 to adopt new significance thresholds for VMT. At this time, At this time, CPUC’s new thresholds of significance are pending, therefore the LOS threshold remains in place for the proposed project. However, since the proposed project would only generate new vehicle trips during construction and does not involve changes in land use that would create a permanent source of traffic in the area, LOS would provide a more accurate accounting of the traffic impacts than VMT for the proposed project.

Applicant Proposed Measures

The applicant would implement the following APMs to minimize or avoid impacts on transportation and traffic. Mitigation Measure (MM) GEN-1 requires implementation of these APMs to mitigate impacts to cultural resources and the impact analysis in this section applies to these APMs to reduce impacts. A list of all project APMs is included in Table 4-2.

APM TRA-1: TDS and/or their contractors will require the project contractor to obtain all necessary local road encroachment permits prior to construction and will comply with all the applicable conditions of approval.

APM TRA-2: As deemed necessary by the applicable jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction.

APM TRA-3: TDS and/or their contractors will develop circulation and detour plans to minimize impacts to local street circulation. This will include the use of signing and flagging to guide vehicles through and/or around the construction zone.

APM TRA-4: TDS and/or their contractors will schedule truck trips outside of peak morning and evening commute hours.

APM TRA-5: TDS and/or their contractors will limit lane closures during peak hours to the extent possible.

APM TRA-6: TDS and/or their contractors will include detours for bicycles and pedestrians in all areas potentially affected by project construction.

APM TRA-7: TDS and/or their contractors will install traffic control devices as specified in the California Department of Transportation Manual of Traffic Controls for Construction and Maintenance

APM TRA-8: TDS and/or their contractors will coordinate with local transit agencies for the temporary relocation of routes or bus stops in work zones as necessary.

Impacts on Transportation

Table 5.17-2 describes the significance criteria from Appendix G of the CEQA Guidelines' transportation and traffic section which the California Public Utilities Commission used to evaluate the environmental impacts of the proposed project.

Table 5.17-2 Transportation Checklist

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

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

The proposed project would generate construction trips from worker vehicles, equipment delivery, and other similar activities. During the 60 to 120 day construction period, a maximum of 22 workers would be needed for all project components, generating a total of 44 daily one-way trips. Additional trips would be generated for delivery of construction equipment.

Construction activities for installation of the telecom line would potentially require temporary traffic lane closures. This would limit traffic capacity of affected roadways and, in some instances, allow for only one lane of travel for both directions of traffic. However, construction activities would occur primarily on rural roadways that are not identified as congested in the regional transportation plan based on LOS metrics. Delays to motorists are expected to average 1 to 2 minutes. Construction trips would be temporary, and would not result in roadways exceeding LOS thresholds as shown in Table 5.17-1. Although no bicycle lanes are located within the proposed project area, Class II bicycle lanes are proposed in portions of the proposed project areas. Bicyclists may be temporarily affected by construction

activities during temporary closure of vehicle lanes. Further, no transit routes are present near the proposed project area; therefore, the implementation of the project would not result in the permanent closure of any bus stops and would not impact public transit.

Operation and maintenance of the telecom line would not require any additional disturbance of roadway lanes. Some vehicle trips on local roadways would occur from TDS technicians connecting and disconnecting service to customers and for maintenance of equipment. Therefore, the proposed project would not conflict with the regional transportation plan or directly impact any roadway included in the congestion management program. The potential impact would be less than significant.

The applicant would implement APMs to further minimize potential traffic delays resulting from temporary lane closures during construction. **APM TRA-1** would require the applicant to comply with all conditions of approval for encroachment permits. A traffic control plan would be developed as required by the local jurisdiction under **APM TRA-2**. **APM TRA-3** would require the applicant to develop circulation and detour plans and use signing and flaggers to direct or reroute traffic. **APM TRA-4** would require the applicant to schedule truck trips outside of peak commute hours to further lessen any potential impact. **APM TRA-5** would require the applicant to limit lane closures during peak traffic hours. Additionally, **APM TRA-7** would require the applicant to install traffic control devices as specified in the Caltrans Manual of Traffic Controls for Construction and Maintenance. **APM TRA-6** would require the applicant and/or its contractors to provide detours for bicycles and pedestrians in all areas potentially affected by project construction. Although there are no existing transit routes identified in the proposed project area, **APM TRA-8** would require coordination with transit agencies to temporarily relocate transit routes and bus stops as necessary.

Significance: Less than significant.

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

Construction of the proposed project would not directly impact any roadways included in the congestion management program. Some construction workers and equipment delivery may utilize I-5, SR 273, or other roadways identified as regionally significant corridors in the regional transportation plan; however, these trips would be negligible compared to existing traffic volumes. Construction activities and lane closures would not occur in any regionally significant corridors. As described in criterion (a), the traffic volumes from maintenance activities would be negligible, since minimal vehicle trips on regionally significant roadways would occur as TDS technicians connected and disconnected service to customers. Therefore, no impact would occur under this criterion.

Significance: No impact.

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

The proposed project would not require the construction of publicly accessible roads that would have a substantially hazardous design feature such as sharp curves or dangerous intersections. However, construction activities could result in hazards due to work in public roadways, and potential road damage from oversized construction vehicles.

Construction activities involving plowing and trenching and overweight or oversized vehicles for the delivery of construction equipment and materials would require ROW and oversize vehicle permits. Plowing and trenching activities involving removal of asphalt and overweight vehicles can shorten the life

of the pavement and eventually lead to rutting and cracking. Damage to roadways from construction activities within the proposed project area may result in hazardous conditions to motorists. As part of **APM TRA-1**, the applicant would obtain the necessary permits from Shasta County prior to beginning construction and comply with all applicable conditions. Impacts would still be significant; however, because local transportation permits for overweight vehicles may not require documentation of pavement conditions before and after construction as a condition of approval. The applicant would implement Mitigation Measure (MM) **TRA-1**, which would require repairs to road damage caused indirectly as a result of project-related vehicle traffic.

Installation of telecommunications cables would require temporary closure of the lane adjacent to the trenching location. This could cause safety impacts to motorists. Implementation of APMs would minimize potential safety hazards resulting from temporary lane closures. A traffic control plan would be developed as required by the local jurisdiction under **APM TRA-2**. **APM TRA-3** would require the applicant to develop circulation and detour plans and use signing and flaggers to direct or reroute traffic. **APM TRA-5** would require the applicant to limit lane closures during peak traffic hours. Additionally, **APM TRA-7** would require the applicant to install traffic control devices as specified in the Caltrans Manual of Traffic Controls for Construction and Maintenance. Such measures would limit the number of motorists exposed to potential safety hazards and direct those vehicles safely through the construction zone. The applicant would also adhere to conditions set forth in the encroachment permit, which are established to minimize environmental impact and address safety concerns; see Section 5.10, "Land Use." **MM GEN-1** would ensure that the applicant would implement all proposed APMs. With the implementation of **APM TRA-1**, **APM TRA-2**, **APM TRA-3**, **APM TRA-5**, **APM TRA-7**, **MM TRA-1**, and **MM GEN-1**, impacts would be less than significant.

Significance: Less than significant with mitigation.

d. Would the project result in inadequate emergency access?

Installation of the telecom line would require temporary lane closures of multiple roadways in the proposed project area. Closure of lanes may significantly impact emergency access. **APM TRA-1** would require the applicant to obtain all necessary local road encroachment permits and to comply with all applicable conditions of approval. However, impacts would still be significant because local road encroachment permits may not require notification of emergency services agencies and maintaining emergency access during road closures as a condition of approval. The applicant would implement **MM TRAN-2**, which requires the applicant to maintain emergency access on roadways at all times. Construction of the proposed project would not result in the permanent closure of any roads or lanes, and no temporary road or lane closures are planned during operations. **MM GEN-1** would ensure that the applicant would implement all proposed APMs. With the implementation of **APM TRA-1**, **MM TRAN-2**, **MM GEN-1**, impacts would be less than significant.

Significance: Less than significant with mitigation.

Mitigation Measures

See Section 5.3, "Air Quality" for **MM GEN-1**.

MM TRA-1: Road Repair. The applicant shall repair to pre-project conditions any roads damaged by project vehicle traffic. The applicant shall document roadway conditions with photographs prior to the project along roadways within the project area. The applicant shall take photographs after the project and after any repairs that document restoration of pre-project pavement conditions.

1 **MM TRA-2: Emergency Access.** The applicant shall notify local emergency service providers (i.e.,
2 police departments, ambulance services, and fire departments) of lane closures at least one week prior to
3 the closure. The applicant shall notify the provider of the location, date, time, and duration of the lane
4 closure. The applicant shall make provisions to maintain emergency vehicle access at all times in
5 coordination with local emergency service providers, such as allowing for bypass of slow vehicle traffic
6 during lane closures.

5.18 Tribal Cultural Resources

This section describes the environmental and regulatory setting and discusses impacts associated with the construction and operation of the proposed project with respect to tribal cultural resources. Appendix E includes correspondence with the Native American Heritage Commission (NAHC) and local Native American tribes within the vicinity of the proposed project alignment. Section 5.5, “Cultural Resources” discusses historical resources, unique archaeological resources, and paleontological resources.

Information presented in this section was compiled from the following sources:

- *A Class III Cultural Resource Survey for a Proposed Buried Telecommunications Fiber-Optic Line in Happy Valley, Shasta County, California* (Howell and Copperstone 2017);
- TDS’s Proponent’s Environmental Assessment (Tierra Right of Way Services, Ltd. 2015) and subsequent submittals for the proposed project; and
- The results of the CPUC’s consultation with California Native American tribes pursuant to Assembly Bill (AB) 52 regulations (Appendix E).

The CPUC’s qualified consultant reviewed these documents, other submitted information, and the results of CPUC’s AB 52 consultation with California Native American tribes for the proposed project in preparing this analysis.

5.18.1 Environmental Setting

For the purposes of this evaluation, the environmental setting for which direct effects are considered includes a buffer of 29 feet on either side of the project centerline; this area is referred to as the area of direct impact (ADI). This allows for a 25-foot buffer to either side of the proposed 8 feet of ground disturbance for the conduit. Adjacent parcels (i.e., those touching or encompassed by the buffer) also are considered with regard to potential indirect effects; these areas are referred to as the area of indirect impact (AII). Collectively, the ADI and AII make up the area of potential impact (API).

Ethnographic Cultural Setting

Ethnographic research indicates that three distinct Native American groups have known connections to the general project vicinity: the Achumawi, the Yana, and the Wintu. The information presented herein is largely derived from the discussion of the ethnographic and ethnohistoric setting in the cultural resources report by Howell and Copperstone (2017), unless otherwise noted.

Achumawi/Pit River Tribe. The Achumawi, or “river people” comprise a number of small tribelets who lived in the northeastern part of the region, from Mount Shasta and Lassen Peak to the Warner Range, concentrated mainly along the Pit River and its major tributaries. The Achumawi would spend the winter in villages and the summer in temporary seasonal camps. Achumawi villages typically included one or more semi-subterranean structures that were used as dance houses, chiefs’ homes, or multiple family dwellings. The natural environment was significant to the Achumawi’s spiritual beliefs, and according to tradition, certain peaks, springs, swamps, and other water sources were considered sacred “power places” where individuals could seek supernatural powers.

Largely hunters and gathers, the Achumawi subsisted on a wide variety of aquatic, terrestrial, and avian species from swamps, grasslands, and forested lands within their territory. Deer was the primary protein, though the Achumawi diet also included antelope, bear, beaver, badger, coyote, and a variety of small mammals. Given the riverine setting, fish such as salmon, trout, bass, pike, and catfish, as well as freshwater crawfish, and mussels, were also important dietary staples. The Achumawi also consumed a

variety of plants and vegetable matter, most commonly acorn, tule sprouts, and various seeds, berries, roots, and bulbs. What was not used as food, such as wild tobacco, could be employed for ceremonial or medicinal purposes.

The Achumawi produced their clothing out of animal hides, which could also be rendered for body armor and shields. They crafted lithic tools out of obsidian with projectile points, bows, and arrows and made other expedient stone tools out of chert or chalcedony. The Achumawi used juniper and pine to construct dugout canoes and fashioned a wide variety of nets to catch waterfowl, basket traps, and harpoons for fishing in the vicinity streams and waterways.

Descendants of the Achumawi remain in the general proposed project area vicinity today and are identified by the NAHC as members of the federally recognized Pit River and Redding Rancheria Tribes, located approximately 48 miles northeast and outside of the proposed project area. The tribes maintain territory comprising all ancestral lands recognized by the Indian Claims Commission, as well as 13 acres deeded to the United States by the State of California in trust for the Pit River Home and Agricultural Cooperative Association, as trustee for the tribe.

Yana. The Yana are a Hokan-speaking group associated with the eastern side of the upper Sacramento River Valley and adjacent foothills east of the proposed project area. Each of the four Yana linguistic groups consisted of a number of small tribelets with varying home styles. The Yana settled in permanent winter villages and temporary seasonal summer camps. Their subsistence activities included hunting for upland food sources and gathering, as well as fishing. Acorns were an important food source for the Yana throughout the year. They also gathered roots, tubers, bulbs, buckeye nuts, seeds, berries, and fruits. The Yana produced spears, harpoons, nets, traps, and poison and fished local waterways primarily for salmon, but also for trout and suckers.

Information for sacred places associated with the Yana was not available from ethnographic or ethnohistoric sources. Descendants of the Yana, including those identified by the NAHC that are members of the federally recognized Redding Rancheria, remain in the proposed project area's general vicinity today.

Wintu. The Wintu are associated with territory containing the proposed project area. Anthropologists divide the Wintu linguistically into the Northern, Southern, and Central language groups, with neighboring tribes speaking closely related dialects. The proposed project area is located in what was the dawpom ("front ground") of the group's territory.

Socio-politically, the Wintu consisted of six to nine distinct groups. Each group was associated with a specific area within the Wintu tribe. The following information relating to the Wintu's settlement, subsistence patterns, and material culture has been drawn from other, better-documented Wintu groups. The material cultural associated with the Wintu is likely to have included items similar to those identified for the Achumawi and/or the Yana: hides that were used for clothing and other items; basketry that was used for cooking and storage; lithic tools; a wide variety of fishing items, such as nets, traps, and harpoons; and plants that were used for ceremonial and/or medicinal purposes.

Wintu sacred places consisted of topographical features with meaning outside of the domestic sphere of the village, such as pot and seepage holes, rocks in the shape of animals, caves, river whirlpools, and knolls. In addition to sacred places, the Wintu appear to have maintained sacred relationships with animal species, such as the salmon and the grizzly bear. For instance, grizzly bears were feared by the Wintu, and several powerful Wintu curses invoked actions by a grizzly bear on a human.

Descendants of the Wintu remain in the general vicinity of the proposed project area today, including those identified by the NAHC as members: of the federally recognized Redding Rancheria (Sanchez

2014; Redding Rancheria 2017); of the state-recognized California Native American tribes (the Wintu Tribe of Northern California [Wintu]; the Winnemem Wintu Tribe; the Nor-Rel-Muk-Nation; and the United Tribe of Northern California, Inc., Wintu, Wintun, Wintoon); of a group associated with the Wintu (the Wintu Educational and Cultural Council); and as individual Wintu descendants (Sanchez 2014). The federally recognized Redding Rancheria is a small reservation located on the south side of Clear Creek, approximately 3 miles northeast and outside of the area associated with the proposed project. The state-recognized California Native American (Wintu) tribes, the Wintu group, and the Wintu individuals are all generally located in areas north of, and approximately 3 to 34 miles away from, the proposed project area.

According to the Constitution of the Wintu, their jurisdiction accounts for all land encompassing the Wintu ancestral territory, which includes the “McCloud River area and Mt. Shasta in Siskiyou County, to the North; the Burnt Ranch area, to the west; the Red Bluff area in Tehama County, to the East. This land area constitutes the place of origin and of continued habitation and occupancy of the aboriginal Wintu Tribe, from which the Wintu Tribe of Northern California derives” (Wintu n.d.). According to the Wintu creation story, when the first Wintu people emerged from the sacred spring at Mt. Shasta, they did not have the ability to speak.

Tribal Cultural Resources

Tribal cultural resources (TCRs) are sites, features, places, cultural landscapes, sacred places, or objects that are of cultural value to a California Native American Tribe. They are either included or determined to be eligible for inclusion in the California Register of Historic Resources or included in a local register. They also can be resources that the lead agency, at its discretion, chooses to treat as a TCR (PRC section 21074).

Additionally, a cultural landscape is a TCR to the extent that the landscape is geographically defined in terms of the size and scope of the landscape (PRC section 21074(b)). Additionally, TCRs may be historical resources (PRC section 21084.1), unique archaeological resources (PRC section 21083.2(g)), or non-unique archaeological resources (PRC sections 21083.2 (h) and 21084(c)).

California Native American Heritage Commission Consultation

On December 2, 2014, TDS’s environmental consultant, Tierra Right of Way Services, Ltd., contacted the California NAHC to request a search for sacred lands and a list of Native American contacts for the proposed project area. The California NAHC provided a response via letter dated December 11, 2014. In this response, the California NAHC indicated that the results of their record search of the sacred land file did not indicate the presence of Native American cultural resources in the immediate proposed project area. However, they noted that the absence of specific site information in the sacred land file does not indicate the absence of cultural resources in a given area, and they recommended that other sources of cultural resources information should also be consulted regarding known and recorded sites that may be in the proposed project area (Sanchez 2014).

The California NAHC also provided a list of 14 Native American individuals and organizations who may have knowledge of cultural resources in the proposed project area, including:

- Two individuals (both of Wintu cultural affiliation);
- A representative of the Nor-Rel-Muk Nation (Wintu cultural affiliation);
- Three representatives of the Pit River Tribe of California (Pit River, Ajumawi-Atsugewi, and Wintun cultural affiliations);
- Three representatives of the Redding Rancheria (Wintu, Pit River, and Yana cultural affiliations);
- Two representatives of the United Tribe of Northern California, Inc., Wintu, Wintun, Wintoon

(Wintu, Wintun, and Wintoon cultural affiliations);

- A representative of the Winnemem Wintu Tribe (Wintu cultural affiliation);
- A representative of the Wintu Educational and Cultural Council (Wintu cultural affiliation); and
- A representative of the Wintu (Wintu cultural affiliation) (Sanchez 2014).

Accordingly, the individuals and organizations on this list were contacted to identify known or potential Native American cultural resources in the proposed project area or to obtain recommendations of others with such knowledge (Sanchez 2014).

AB 52 Tribal Consultation

On March 31, 2017, the CPUC notified, via letter, a total of 24 federally recognized Indian tribes, California Native American tribes, and Native American individuals and organizations of its initiation of the AB 52 consultation process (see Table 5.18-1). The CPUC received six responses from the Colorado River Indian Tribes of the Colorado River Indian Reservation, Arizona and California; the Federated Indians of Graton Rancheria, California; the San Manuel Band of Mission Indians, California; the Torres Martinez Desert Cahuilla Indians; the Twenty-Nine Palms Band of Mission Indians of California; and the Wintu.

The six responding tribes offered the following comments on the proposed project:

- Colorado River Indian Tribes of the Colorado River Indian Reservation, Arizona and California - indicated that they do not have any specific comment on the proposed project and defer to the comments of other affiliated tribes (Harper 2017);
- Federated Indians of Graton Rancheria, California - indicated that they reviewed the location of the proposed project and determined that it is not in their traditional ancestral territory and therefore they have no comments on the proposed project (McQuillen 2017);
- San Manuel Band of Mission Indians, California - indicated that the proposed project location is outside of Serrano ancestral territory, and therefore the tribe will not be requesting consulting party status under CEQA or AB 52 and will not be requesting to participate in the scoping, development, and/or review of documents created pursuant to these legal and regulatory mandates (Clauss 2017);
- Torres Martinez Desert Cahuilla Indians - indicated that they reviewed the information provided by the CPUC, determined that the location of the proposed project is outside of the tribe's traditional use area, and are deferring consultation for this project to other tribes closer to the proposed project area (Mirelez 2017);
- Twenty-Nine Palms Band of Mission Indians of California - indicated that the Tribal Historic Preservation Office is not aware of any archaeological/cultural sites or properties in the proposed project area that pertain to the tribe, the tribe currently has no interest in the proposed project, and the tribe defers to the comments of other affiliated tribes. However, they noted that if there are inadvertent discoveries of archaeological remains or resources, construction should stop immediately, and the appropriate agency and tribe(s) should be notified (Madrigal 2017); and
- Wintu and Toyon-Wintu Center - indicated that the proposed project would be located within the tribe's ancestral territory, the tribe is the acknowledged tribe having inherent rights over this territory, and that all Wintu monitoring and consultations are to go through the tribe (Hayward 2017a, 2017b).

Table 5.18-1 Summary of Initiation of Assembly Bill 52 Tribal Consultation for the Proposed Project (2017)

Name of Tribe or Organization	Person Contacted	Date of Notification	Date of Response	Summary of Response
Individual ⁽¹⁾	Loretta Root	March 31, 2017 (Uchida 2017a)	No response received.	No response received.
Individual ⁽¹⁾	Matthew Root	March 31, 2017 (Uchida 2017b)	No response received.	No response received.
Cabazon Band of Mission Indians ⁽²⁾	Doug Todd Welmas (Tribal Chairman)	March 31, 2017 (Uchida 2017c)	No response received.	No response received.
Colorado River Indian Tribes ⁽²⁾	Amanda Barrera (Tribal Secretary)	March 31, 2017 (Uchida 2017d)	April 7, 2017 (Harper 2017)	<ul style="list-style-type: none"> Colorado River Indian Tribes do not have any specific comment on the proposed project. Colorado River Indian Tribes defer to the comments of other affiliated tribes.
Federated Indians of Graton Reservation ⁽²⁾	Buffy McQuillen (Tribal Heritage Preservation Officer)	March 31, 2017 (Uchida 2017e)	April 6, 2017 (McQuillen 2017)	<ul style="list-style-type: none"> Federated Indians of Graton Rancheria, California reviewed the location of the proposed project. Federated Indians of Graton Rancheria, California determined that it is not in their traditional ancestral territory. Federated Indians of Graton Rancheria, California has no comments on the proposed project.
Gabrieleno Band of Mission Indians ⁽²⁾	Andrew Salas (Chairman)	March 31, 2017 (Uchida 2017f)	No response received.	No response received.
Nor-Rel-Muk Nation ⁽¹⁾	Marilyn Delgado (Chairperson)	March 31, 2017 (Uchida 2017g)	No response received.	No response received.
Pechanga Band of Luiseno Indians ⁽²⁾	Anna Hoover (Cultural Analysis)	March 31, 2017 (Uchida 2017h)	No response received.	No response received.
Pit River Tribe of California ⁽¹⁾	Dolores Raglin (Chairperson)	March 31, 2017 (Uchida 2017i)	No response received.	No response received.
Pit River Tribe of California ⁽¹⁾	Alexis Barry (Tribal Administrator)	March 31, 2017 (Uchida 2017j)	No response received.	No response received.
Pit River Tribe of California ⁽¹⁾	Morning Star Gali (Historic Preservation Office)	March 31, 2017 (Uchida 2017k)	No response received.	No response received.

Table 5.18-1 Summary of Initiation of Assembly Bill 52 Tribal Consultation for the Proposed Project (2017)

Name of Tribe or Organization	Person Contacted	Date of Notification	Date of Response	Summary of Response
Redding Rancheria ⁽¹⁾	Tracy Edwards (Chief Executive Officer)	March 31, 2017 (Uchida 2017l)	No response received.	No response received.
Redding Rancheria ⁽¹⁾	Jason Hart (Chairperson)	March 31, 2017 (Uchida 2017m)	No response received.	No response received.
Redding Rancheria ⁽¹⁾	James Hayward, Sr. (Cultural Resources Program)	March 31, 2017 (Uchida 2017n)	No response received.	No response received.
San Luis Rey Band of Mission Indians ⁽²⁾	Cami Mojado (Cultural Resources Manager)	March 31, 2017 (Uchida 2017o)	No response received.	No response received.
San Manuel Band of Mission Indians ⁽²⁾	Daniel F. McCarthy, MS, RAP (Director-CRM Development)	March 31, 2017 (Uchida 2017p)	April 11, 2017 (Claus 2017)	<ul style="list-style-type: none"> Proposed project location is outside of Serrano ancestral territory. San Manuel Band of Mission Indians, California will not be requesting consulting party status under CEQA or AB 52. San Manuel Band of Mission Indians, California will not be requesting to participate in the scoping, development, and/or review of documents created pursuant to CEQA or AB 52 legal and regulatory mandates.
Temecula Band of Luiseno Mission Indians ⁽²⁾	Timothy J. Sullivan (Executive Director)	March 31, 2017 (Uchida 2017q)	No response received.	No response received.
Torres Martinez Desert Cahuilla Indians ⁽²⁾	Michael Mirelez (Cultural Resources Coordinator)	March 31, 2017 (Uchida 2017r)	April 25, 2017 (Mirelez 2017)	<ul style="list-style-type: none"> Torres Martinez Desert Cahuilla Indians reviewed the information provided by the CPUC. Torres Martinez Desert Cahuilla Indians determined that the location of the proposed project is outside of the tribe's traditional use area. Torres Martinez Desert Cahuilla Indians are deferring consultation for this project to other tribes closer to the proposed project area.
Twenty-Nine Palms Band of Mission Indians ⁽²⁾	Darrell Mike (Tribal Chairman)	March 31, 2017 (Uchida 2017s)	April 7, 2017 (Madrigal 2017)	<ul style="list-style-type: none"> Twenty-Nine Palms Band of Mission Indians of California's Tribal Historic Preservation Office is not aware of any archaeological/cultural sites or properties in the proposed project area that pertain to the tribe. Twenty-Nine Palms Band of Mission Indians of California currently has no interest in the proposed project. Twenty-Nine Palms Band of Mission Indians

Table 5.18-1 Summary of Initiation of Assembly Bill 52 Tribal Consultation for the Proposed Project (2017)

Name of Tribe or Organization	Person Contacted	Date of Notification	Date of Response	Summary of Response
				<p>of California defers to the comments of other affiliated tribes.</p> <ul style="list-style-type: none"> Twenty-Nine Palms Band of Mission Indians of California noted, however, that if there are inadvertent discoveries of archaeological remains or resources, construction should stop immediately, and the appropriate agency and tribe(s) should be notified.
United Tribe of Northern California, Inc., Wintu, Wintun, Wintoon ⁽¹⁾	Gloria Gomes (Chairperson)	March 31, 2017 (Uchida 2017t)	No response received.	No response received.
United Tribe of Northern California, Inc., Wintu, Wintun, Wintoon ⁽¹⁾	John Castro (Cultural Liaison)	March 31, 2017 (Uchida 2017u)	No response received.	No response received.
Winnemem Wintu Tribe ⁽¹⁾	Caleen Sisk-Franco (Tribal Chair)	March 31, 2017 (Uchida 2017v)	No response received.	No response received.
Wintu Educational and Cultural Council ⁽¹⁾	Robert Burns	March 31, 2017 (Uchida 2017w)	No response received.	No response received.
Wintu Tribe of Northern California ⁽¹⁾	Kelli Hayward	March 31, 2017 (Uchida 2017x)	April 18, 2017 (Hayward 2017a)	<ul style="list-style-type: none"> Proposed project is located within the Wintu Tribe of Northern California's ancestral territory. Wintu Tribe of Northern California is the acknowledged tribe having inherent rights over this territory. All Wintu monitoring and consultations are to go through the Wintu Tribe of Northern California.

Sources: Clauss 2017; Harper 2017; Hayward 2017a; Madrigal 2017; McQuillen 2017; Mirelez 2017; Uchida 2017a–x.

Notes:

⁽¹⁾ Individual or organization identified by the California NAHC (Sanchez 2014).

⁽²⁾ California Native American tribe that has requested to the CPUC, in writing, to be informed about proposed projects through formal notification under AB 52.

Key:

AB Assembly Bill
CEQA California Environmental Quality Act
CPUC California Public Utilities Commission
NAHC Native America Heritage Commission

1 In December 2017 and January 2018, additional California tribes responded to the CPUC requesting
2 information about proposed projects that may be located within geographic area(s) of interest to them due
3 to their traditional and cultural affiliations. Among these new tribes responding to the CPUC for projects
4 in Shasta County were the Elk Valley Rancheria and the Shasta Indian Nation. In response to these two
5 tribes, the CPUC provided project initiation letters to these two tribes on February 16, 2018. (see Table
6 5.18-2.)

Table 5.18-2 Summary of Initiation of Assembly B 52 Tribal Consultation for the Proposed Project
(2018)

Name of Tribe or Organization	Person Contacted	Date of Notification	Date of Response	Summary of Response
Elk Valley Rancheria	Dale A. Miller	February 16, 2018 (Uchida 2018a)	No response received.	No response received.
Shasta Indian Nation	Sami Jo Difuntorum	February 16, 2018 (Uchida 2018b)	2/20/2018 (Difuntorum 2018)	<ul style="list-style-type: none"> Proposed project is outside their area of interest. The Shasta Indian Nation has no comments.

Sources: Difuntorum 2018; Uchida 2018a, 2018b

AB 52 Consultation with the Wintu Tribe of Northern California

Based on the response received, the CPUC conducted AB 52 consultation with the Wintu. On July 6, 2017, the CPUC initiated consultation, via letter, with the tribe in accordance with AB 52 regarding the potential for the proposed project to result in impacts on TCRs.

The Wintu responded July 19, 2017, to confirm that the tribe was requesting consultation under AB 52 for the proposed project and was aware of TCRs located within the proposed project area. Specifically, the tribe indicated that the Cloverdale Cemetery was an area of concern, as there are Wintu ancestors buried there, including members of Wintu families from the Igo and Ono areas, and waterways are an area of concern and should be treated with the utmost care and respect when work takes place near them (Hayward 2017b).

A conference call was held on September 12, 2017, between the CPUC and the Wintu to obtain clarification regarding the comments from the July 19, 2017 letter. During the conference call, the CPUC confirmed that:

- The tribe is requesting monitoring by a Wintu representative during construction in the vicinity of the Cloverdale Cemetery;
- The tribe is concerned about the potential archaeological sensitivity at the locations of waterbody crossings; and
- The tribe noted that the depth of excavation for installation of proposed project components appears to be deeper than depths used in previous surveys conducted within the proposed project area.

A letter dated December 28, 2017, provided a high level summary of the September conference call and further information regarding the proposed project (Uchida 2017y). It also included a summary of the proposed construction in the vicinity of the Cloverdale Cemetery, information regarding the waterbody crossings, and a description of the depths of excavations. The letter also presented the applicant-proposed measures (APMs) and potential mitigation measures for review (Uchida 2017z).

A response was received from the Wintu in February 2018, noting that the tribe concurred with the APMs and CPUC mitigation measures for construction within 50 feet of the Cloverdale Cemetery. The tribe also requested that any reports regarding waterbodies be sent to them, especially with regard to the waterways within the area where impacts could occur. The tribe further noted that they would like to see additional information regarding the depths of excavation if human remains or cultural resources are discovered. Finally, they noted that they would like information on the depth of surface and subsurface disturbance and the test pits for the eventual boring (Wintu 2018).

A follow-up letter was sent by the CPUC to the Wintu on October 25, 2018. This letter provided project updates, requested review of proposed mitigation measures, and addressed comments received in the December 28, 2017, letter from the tribe. The Wintu issued a response via email on October 26, 2018.

To continue the consultation with the Wintu, the CPUC held a telephone conference call with Ms. Kelli Hayward, the AB-52 representative of the Wintu, on November 28, 2018. As part of this call, general questions regarding the Wintu's comments were discussed, along with potential areas in which the Wintu would like to monitor construction activities, and specific wording within the proposed mitigation measures. Ms. Hayward also noted the importance of the general area of the proposed project, as members of the Wintu were involved with the mining activities near Igo. No specific locations or resources were discussed with regard to the proposed project other than the Cloverdale Cemetery and waterways.

A letter summarizing revised mitigation measures, accounting for the November 2018 discussion, was provided to the Wintu on February 20, 2019. The letter also noted a change in the CPUC Project Manager and information regarding how the Wintu may provide additional comments. The CPUC received a response from Ms. Kelli Hayward on February 26, 2019, noting that they did not have any further comments. Receipt of this email was acknowledged by the CPUC project team on February 26, 2019.

5.18.2 Regulatory Setting

Federal

No federal regulations related to TCRs are applicable to the proposed project.

State

Assembly Bill 52. Under AB 52, Native American culture must be considered in the CEQA process based on changes made to the California PRC. If a project may cause significant impact to a TCR, the project may have a significant impact on the environment per AB 52 (PRC 21084.2). AB 52 establishes a defined and formal consultation role with tribes as part of the CEQA process and requires lead agencies to consult with Native American tribes regarding potential TCRs within the study area, the potential for significant impacts to TCRs, analysis of project alternatives, and input on the level of analysis under CEQA.

Additional State Laws Regarding Archaeological and Native American Cultural Resources.

California law extends additional protections to Native American cultural resources (not limited to TCRs):

- PRC sections 5097.91 through 5097.991 pertain to the establishment and authority of the NAHC. These sections also prohibit the acquisition or possession of Native American artifacts or human remains taken from a Native American grave or cairn, except in accordance with an agreement reached with the NAHC, and provide for Native American remains and associated grave artifacts to be repatriated.
- PRC subsections 5097.98(b) and (e) require a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until conferring with the most likely descendants (as identified by the NAHC) to consider treatment options.
- Health and Safety Code sections 7050 through 7054 make the disturbance and removal of human remains felony offenses because of the importance of human remains to the Native American community.
- PRC section 65092 provides for the notification of California Native American tribes who are on the contact list maintained by the NAHC about construction projects.

- PRC sections 5097.993 through 5097.994 make it a misdemeanor crime to perform unlawful and malicious excavation, removal, or destruction of Native American archaeological or historical sites on public or private lands.
- Penal Code section 622 establishes as a misdemeanor the willful injury, disfiguration, defacement, or destruction of any object or thing of archaeological or historical interest or value, whether situated on private or public lands.
- PRC section 6254(r) protects Native American graves, cemeteries, and sacred places maintained by the NAHC by protecting records of such resources from public disclosure under the California Public Records Act.

Local

No local regulations related to TCRs are applicable to the proposed project.

5.18.3 Environmental Impacts and Mitigation Measures

The impact analysis below identifies and describes the proposed project's potential impacts on TCRs within the proposed project area. Potential impacts were evaluated according to the significance criteria presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of the construction phase effects warranted a more detailed evaluation.

Applicant Proposed Measures

The applicant has not incorporated APMs to specifically minimize or avoid impacts on TCRs; however, APMs proposed from other resource sections, as further described below, would mitigate impacts to TCRs. **Mitigation Measure (MM) GEN-1** requires implementation of these APMs to mitigate impacts, and the impact analysis in this section applies these APMs to reduce impacts. A list of all project APMs is included in Table 4-2 in Chapter 4.

Significance Criteria

Table 5.18-3 describes the significance criteria from Appendix G of the CEQA Guidelines' TCRs section, which the CPUC used to evaluate the environmental impacts of the proposed project. Based on consultation with California Native American tribes, and per the lead agency discretion, TCRs include the Cloverdale Cemetery (located in the AII) and waterways (located within the ADI and AII).

Table 5.18-3 Tribal Cultural Resources Checklist

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Table 5.18-3 Tribal Cultural Resources Checklist

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Items (a) and (b) of the cultural resources checklist are considered together for the purposes of this evaluation due the potential for similar impacts for resources that are listed or eligible for listing on the California Register of Historic Resources or local register of historical resources and those that are considered tribal cultural resources per the discretion of the lead agency.

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

or

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

Consultation with California Native American tribes in accordance with AB 52 resulted in the identification of the Cloverdale Cemetery as an area of concern for the Wintu Tribe of Northern California & Toyon-Wintu Center, as Wintu ancestors are buried within the cemetery, including members of Wintu families from the Igo and Ono areas (Hayward 2017b).

The Cloverdale Cemetery fenceline is located approximately 53 feet west of the proposed project alignment. It is located within the AII. As it is located outside the area in which ground disturbance is planned (i.e., the ADI), no direct impacts on this resource are anticipated to occur. However, as the cemetery dates to the late 19th century (ca. 1892), there is some potential for burials to be located outside of the fenceline. The applicant has proposed APMs that would help to reduce the potential for impacts to the Cloverdale Cemetery. These include **APM CR-2** (which has been implemented and incorporated into the project design) and **APM CR-4**. In addition, **MM CUL 1, MM CUL-2, MM CUL-3, MM CUL-5, MM TCR-1, and MM TCR-2** will be implemented. With the implementation of these APMs and mitigation measures, the impact will be reduced to less than significant.

Indirect impacts to the Cloverdale Cemetery would consist of visual and auditory impacts associated with the presence of construction equipment and personnel. The impacts to the cemetery would be anticipated to be less than significant, as they would be temporary and would be similar to those associated with typical roadway repairs.

The Wintu Tribe of Northern California & Toyon-Wintu Center also noted that waterways were an important resource that needed consideration with regard to the potential impacts of the proposed project. The proposed project would cross 29 waterbodies and eight wetlands. In addition, the proposed project would cross 14 culverts that may represent ephemeral waterbodies or drainage swales that do not necessarily lead to a larger order, permanent waterbody. However, the applicant would use the directional boring technique for fiber-optic cable installation beneath all waterbody and wetland crossings, except for Spring Gulch. Due to the topography of Spring Gulch, the proposed project would be installed using directional boring across the top of the banks for this stream along Happy Valley Road, parallel to the bridge over this stream. The applicant has identified the following APMs that collectively would help to avoid physical impacts on waterbody and wetland crossings, including areas adjacent to these features: **APM BIO-1, APM BIO-2, APM BIO-3, APM CR-1, APM CR-3, APM CR-4, APM GEO-4, and APM GEO-7.** In particular, **APM CR-3** and **APM CR-4** would assist in the avoidance of potential archaeologically sensitive areas adjacent to waterbodies and wetland crossings. In addition to these APMs, **MM CUL-1** and **MM CUL-2** would be implemented. With the implementation of the APMs and mitigation measures, the impacts to waterways would be less than significant.

No impacts would be anticipated to occur with the operation and maintenance of the proposed project, as no ground disturbance that would have the potential to impact the cemetery and waterways would occur.

Significance: Less than significant with mitigation.

Mitigation Measures

See Section 5.5, “Cultural Resources” for other applicable mitigation.

MM TCR-1: Tribal Monitoring for Cloverdale Cemetery: One Native American monitor from the Wintu Tribe of Northern California (Wintu) shall be retained, at the Tribe’s option, to observe ground-disturbing activities and all work within 200 feet of the Cloverdale Cemetery, subject to the conditions outlined in this mitigation measure.

Wintu monitoring shall be subject to the following conditions:

- The applicant shall give the Wintu 14 days’ advance notice of construction in the vicinity of the Cloverdale Cemetery and shall provide the Wintu with the opportunity to monitor construction activities in the vicinity of the Cloverdale Cemetery as requested in AB 52 consultation with the CPUC. The applicant shall make a good-faith best effort to schedule construction activities in the vicinity of the Cloverdale Cemetery when a Wintu monitor is available.
- The Wintu monitor’s attendance during construction activities within 200 feet of the Cloverdale Cemetery is ultimately at the discretion of the tribe, and the absence of a Wintu monitor shall not delay construction work if the Wintu has been given 14 days’ advance notice. The applicant shall include documentation of its notification of, and communications with, the Wintu regarding the tribe’s monitoring in the vicinity of Cloverdale Cemetery as part of the monitoring plan for the proposed project.
- The Wintu monitor shall have the ability to temporarily halt work or redirect trenching from the immediate vicinity of a potential unanticipated find or the unanticipated discovery of human remains within 200 feet of the Cloverdale Cemetery. The Wintu monitor shall immediately notify the CPUC-approved archaeological monitor to follow the procedures for the discovery of unanticipated finds (per MM CUL-3) and/or for the unanticipated discovery of human remains per PRC section 5097.98.

MM TCR-2: Treatment for Unanticipated Tribal Cultural Resources. In the event a resource is discovered that, in the opinion of the CPUC-approved archaeologist, may be considered a tribal cultural

resource or a resource of importance to the Wintu Tribe, TDS shall notify the CPUC Project Manager (PM) and Wintu Tribe (Wintu AB 52 or cultural representative) within 24 hours of its discovery. As part of the notification, the resource will be described with sufficient detail to allow the CPUC PM/Wintu AB 52 or cultural representative an understanding of the resource.

The CPUC-approved archaeologist, the CPUC PM, and the Wintu AB 52 or cultural representative will assess the potential significance of the find based on the notification information. If the CPUC-approved archaeologist, the CPUC PM, and Wintu AB 52 or cultural representative determine that the resource is not significant, TDS may proceed with construction within 24 hours of receiving notification of this determination.

If the find is not determined to be significant, TDS shall submit the appropriate California Department of Parks and Recreation (DPR) 523 forms to the CPUC for review and approval within 48 hours of the find. The CPUC PM will approve or request changes to the DPR 523 forms within seven days of submittal by TDS. Once approved, TDS shall file the completed DPR 523 forms with the Northeast Information Center and shall provide a copy of the DPR 523 forms to the CPUC for its records.

If the find is potentially significant, the following procedures will be implemented:

- If the resource can be avoided and the CPUC-approved archaeologist, CPUC PM, and Wintu AB 52 or cultural representative concur, TDS may proceed with construction work in the area of discovery.
- TDS shall ensure that the CPUC-approved archaeologist records the unanticipated resource on the appropriate DPR 523 forms. TDS shall submit the DPR 523 forms to the CPUC for review and approval within 48 hours of the find. The CPUC PM will approve or request changes to the DPR 523 forms within seven days of submittal by TDS. Once approved, TDS shall file the completed DPR 523 forms with the Northeast Information Center and shall provide a copy of the DPR 523 forms to the CPUC for its records.
- If the Wintu request further consultation on a resource, the CPUC-approved archaeologist, CPUC PM, and Wintu AB 52 or cultural representative will consult on the development of the Evaluation Plan and/or the Data Recovery Plan and all subsequent documentation. The review and approval will be sought in the same timeframe for both the CPUC and Wintu AB 52 or cultural representative as that described in MM CUL-3. If the Wintu indicate that consultation with them regarding the Evaluation Plan and/or Data Recovery Plan is not needed, only CPUC review and approval will be required for this plan(s), along with subsequent fieldwork and documentation.

Once the CPUC-approved archaeologist, CPUC PM, and Wintu AB 52 or cultural representative approve the Evaluation Plan and/or Data Recovery Plan, TDS shall ensure that the CPUC-approved archaeologist implements the approved plan. If a Wintu monitor is requested as part of the Evaluation and/or Data Recovery Plan, the role of the monitor will be outlined in the Evaluation Plan and/or Data Recovery Plan.

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5.19 Utilities and Service Systems

5.19.1 Environmental Setting

The proposed project corridors for the proposed project are located along Shasta County roads, many of which accommodate existing utility easements with aerial electrical distribution lines and buried telecommunications and water lines. Wired Internet service in the proposed project area is limited to dial-up. Cellular data service (3G, 4G, and 4GLTE) from Verizon, AT&T, and T-Mobile is available in portions of the proposed project area, as is HughesNet satellite Internet service.

Water Supply

The Clear Creek Community Services District (CCCSD) supplies water to the proposed project area. CCCSD was formed in 1961 and began operating in 1967. It encompasses approximately 14,314 acres and is located approximately 10 miles southwest of Redding and 6 miles west of Anderson in southern Shasta County. CCCSD's service area includes the rural areas of Olinda and Cloverdale. The general area served by CCCSD is commonly known as Happy Valley.

The source of CCCSD water is Whiskeytown Lake; water from the lake is treated and diverted to service connections via the Muletown Conduit, a facility of the Whiskeytown Reservoir, approximately 6.5 miles north of the proposed project area. The distribution system within CCCSD's boundaries consists of about 75 miles of pipe ranging in size from 2 to 45 inches.

CCCSD has one storage tank along the aqueduct, with a capacity of 1 million gallons. A control tank with a 250,000-gallon capacity regulates the pressure at the higher elevation of the district. Another 32,000-gallon storage tank is located outside of the district boundary at a booster station facility.

CCCSD currently provides municipal and industrial water to approximately 2,300 connections in the communities of Happy Valley, Olinda, and Igo (CCCSD 2018).

Wastewater

Wastewater in Shasta County is treated using one of several technical methods with either community or individual onsite disposal systems. All residential, commercial, and recreational developments located in the proposed project area use onsite septic tank/leachfield systems for wastewater treatment.

Other wastewater treatment systems in use elsewhere in the County include communal collection, treatment, and disposal, such as a treatment plant, which discharges treated effluent to a storage and irrigation system or, diluted, to a surface watercourse. Treatment plant systems are operated by the cities of Anderson, Redding, Red Bluff, and Shasta Lake. Several unincorporated communities in the county have community wastewater systems that are operated by community service areas; however, no community service area is established in the vicinity of the proposed project.

Stormwater

Drainage facilities in the proposed project area near developed communities include gutters, swales, ditches, culverts, storm drain inlets, catch basins, storm drainage pipes, and detention basins. Roads also channel stormwater drainage from residences and commercial and industrial facilities to adjacent lands and stormwater drains. Most drains have a single large exit at their point of discharge into a canal, river, lake, reservoir, sea, or ocean. Other than catchbasins, there are no treatment facilities in the piping system.

Solid Waste Disposal

The Shasta County Department of Public Works is responsible for providing solid waste management in unincorporated areas of the county, including Happy Valley, Igo, and Olinda. Shasta County currently has three landfills (West Central Landfill, Anderson Landfill, and Twin Bridges Landfill) and 10 transfer stations. In 2016, Shasta County disposed of approximately 177,337 tons of solid waste (CalRecycle 2018).

Waste Management, Inc., located at 8592 Commercial Way in Redding, California, provides solid waste collection and recyclable material processing services for the proposed project area (Waste Management, Inc. 2017). Table 5.19-1 provides information about the two closest landfills to the proposed project area.

Table 5.19-1 Landfills Serving the Project Area

Landfill	Max. Throughout (Tons/Day)	Max. Capacity (Cubic Yards)	Remaining Capacity (Cubic Yards/Date Recorded)	Expected Closing Year	Location	Wastes Accepted
Anderson Landfill	1,850	16,840,000	11,914,025 / March 16, 2008	2093	Approximately 2 miles southeast of proposed project area.	Agricultural, asbestos, friable, ash, construction/demolition, industrial, mixed municipal, sludge (BioSolids), tires, and wood waste
West Central Landfill	700	13,115,844	6,589,044 / December 1, 2013	2032	Approximately 2 miles southwest of proposed project area.	Agricultural, construction/demolition, industrial, mixed municipal, sludge (BioSolids), and tires.

Source: CalRecycle 2017.

The county adopted a Source Reduction and Recycling Element in 1991, which addresses the county's waste generation characteristics, source reduction, recycling, composting, education, public information, funding, and integration of solid waste management. In addition, the County adopted a Household Hazardous Waste Element that supplements and supports the Source Reduction and Recycling Element (Shasta County 2004).

Electricity and Natural Gas

Pacific Gas and Electric Company provides the majority of the proposed project area with electrical and natural gas services. Some rural residences rely on propane gas deliveries.

5.19.2 Regulatory Setting

Federal

There are no federal regulations applicable to the proposed project with respect to utilities and service systems.

State

California Integrated Waste Management Act of 1989. California's Integrated Waste Management Act of 1989 (Assembly Bill [AB] 939) requires cities and counties to divert 50 percent of all solid waste from landfills as of January 1, 2000, through source reduction, recycling, and composting. AB 939 requires each city and county to prepare a Source Reduction and Recycling Element to be submitted to the Department of Resources Recycling and Recovery (CalRecycle), in an effort to meet the goal of at least 15 years of ongoing landfill capacity, as defined by the act. CalRecycle is a department within the California Natural Resources Agency and administers programs formerly managed by the California Integrated Waste Management Board (CIWMB) and Division of Recycling.

Senate Bill 1016, which established a per capita disposal measurement system, amended AB 939 in 2007. The per capita disposal measurement system is based on a jurisdiction's reported total disposal of solid waste divided by the jurisdiction's population with a CIWMB target per capita rate of disposal. Each jurisdiction is responsible for submitting an annual report outlining its progress in implementing diversion programs and its current capital disposal rate.

California Public Utilities Code. The California Public Utilities Code has broad regulatory authority over public utilities in California, which include electrical utilities, municipal water companies, private energy producers, telephone corporations, and railroad corporations. The California Public Utilities Commission (CPUC) is the government body that administers the California Public Utilities Code. CPUC's Communications Division is responsible for licensing registration, and processing tariffs of local exchange carriers, competitive local carriers, and non-dominant interexchange carriers. It is also responsible for registration of wireless service providers and franchising of video service providers. The Communications Division tracks compliance with commission decisions and monitors consumer protection and service issues and CPUC reliability standards for safe and adequate service (CPUC 2018).

Local

Shasta County General Plan. The following objectives, policies, and programs from the water resources, and public facilities sections of the Shasta County General Plan (2004) are applicable to the proposed project:

- *Objective W-9: Institute effective measures to protect groundwater quality from potential adverse effects of increased pumping or potential sources of contamination.*
- *Policy W-a: Sedimentation and erosion from proposed developments shall be minimized through grading and hillside development ordinances and other similar safeguards as adopted and implemented by the County.*
- *Policy W-b: Septic systems, waste disposal sites, and other sources of hazardous or polluting materials shall be designed to prevent contamination to streams, creeks, rivers, reservoirs, or groundwater basins in accordance with standards and water resource management plans adopted by the County.*

- *Objective PF-1: Development of a comprehensive, long-term plan for wastewater treatment within the County, coordinated with community development objectives and designed to provide this service in a manner making the most effective use of public resources.*
- *Policy PF-h: Public uses (e.g. schools, parks, waste disposal sites) and public utilities (e.g. substation, transmission lines) whose site-specific locations often cannot be identified in advance by the General Plan may be permitted throughout the County to serve the public need. Appropriate zoning on site-specific locations will be determined in response to the identified need as it occurs. Solid waste disposal facilities shall be conditionally permitted to ensure that the site is compatible with adjacent land uses. Surrounding land uses, to the extent feasible, shall be regulated to avoid incompatibility with the solid waste disposal facilities.*

5.19.3 Environmental Impacts and Mitigation

The impact analysis below identifies and describes the proposed project's potential impacts to utilities and service systems within the proposed project area. Potential impacts were evaluated according to significance criterion based on the checklist items presented in Appendix G of the CEQA Guidelines and listed at the start of each impact analysis section below. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a detailed evaluation.

Applicant Proposed Measures

The applicant would implement the following APMs into the proposed project to minimize or avoid impacts on utilities and service systems. Mitigation Measure (MM) GEN-1 requires implementation of all APMs, including those identified to minimize impacts on utilities and service systems. A list of all project APMs is included in Table 4-2 in Chapter 4.

APM PSU-1: TDS and/or their contractors will recycle solid waste generated during construction, to the extent practicable.

Significance Criteria

Table 5.19-2 includes the significance criteria from Appendix G of the CEQA Guidelines' utilities and service systems section, which the CPUC used to evaluate the environmental impacts of the proposed project.

Table 5.19-2 Utilities and Service Systems Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Table 5.19-2 Utilities and Service Systems Checklist

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunication facilities, the construction of which could cause significant environmental effects?*

The nature of the proposed project itself would be an expansion of telecommunication facilities within Shasta County and is analyzed within this IS/MND. The proposed project components do not include construction of residential, commercial, or other land uses that would directly increase population. Construction of the project would be complete within 60 to 120 days and include approximately 22 construction workers; therefore, it is expected that construction activities would generate only a small amount of wastewater from portable toilet use during the construction period. The wastewater generated would be pumped by qualified contractors and disposed of in accordance with applicable regulations and codes. Operation and maintenance associated with the proposed project would require few personnel. Occasional visits by TDS technicians to the Digital Loop Carrier (DLC) sites would be required in order to check on equipment and connect or disconnect customers, but would not require access to municipal services during a site visit. The project components would not increase land use intensities; therefore, would not require the installation of storm water drainage facilities, construction of new water or wastewater treatment facilities, extension of electric power, telecom, or natural gas facilities. As described in Section 5.14, Population and Housing, while the proposed project is meant to serve existing residents, an extension of infrastructure could indirectly accommodate future growth by providing new telecom infrastructure to an area that previously did not have access, which could eventually lead to extension of other municipal services. Accordingly, the impact would be less than significant under this criterion.

Significance: Less than significant.

b. *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

Construction activities would incorporate standard Shasta County Air Quality Management District construction measures specified in Shasta County Rule 3:16 to reduce fugitive dust emissions, including the use of water for dust suppression. Water needed for dust suppression would be provided by the project contractor by using local municipal water resources, such as those found in Anderson, Olinda, Happy Valley, or Igo. The contractors would obtain the quantity of water needed for a day's operation prior to

arriving onsite. Because there would be minimal ground disturbance associated with the proposed project, only a small amount of water (between 500 to 1,000 gallons per week) would be required. Operation and maintenance of the proposed project would not require water or need to use any water entitlements or resources. There would be sufficient water supplies available to serve the project from existing resources. Thus, the proposed project would not increase demand for new or expanded entitlements to provide sufficient water supplies. Therefore, the potential impact would be less than significant.

Significance: Less than significant.

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

Construction crews would use portable toilets during construction activities; therefore, wastewater would be generated during the proposed project's 60 to 120 day construction period. The wastewater generated would be pumped by qualified contractors and disposed of at existing wastewater facilities for treatment. Operation and maintenance would not result in any new wastewater generation. The wastewater generated as part of the project would be temporary during the construction period; thus the wastewater treatment provider would have adequate capacity to serve the proposed project in addition to its other commitments. The impact would be less than significant.

Significance: Less than significant.

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

Following the telecommunications line and DLC installations, the applicant and/or its contractors would promptly perform site clean-up and surface restoration. Clean-up would include removing all construction debris, and surface restoration would involve returning the surface contours of disturbed areas to their pre-construction condition. Recyclable materials including glass, metal, and most plastic food containers; wood and cardboard packaging; and high-density polyethylene (HDPE) conduit remnants would be collected daily in appropriately labeled containers. Once in operation, potential solid waste generated may consist of replaced parts and equipment, plants and planting materials cleared during routine maintenance, and minimal domestic trash (e.g., glass, paper, plastic, packing materials, etc.) from maintenance workers, which would be removed and taken offsite for disposal. These are the same types of wastes that are currently generated by operation and maintenance of current service lines, and it is reasonable to expect they would be generated in similar small quantities.

Although landfills in the proposed project area would have sufficient capacity to accommodate the proposed project's solid waste disposal needs, the applicant would implement **APM PSU-1**, which requires the applicant and/or its contractors to recycle solid waste generated during construction, to the extent practicable. Solid waste generated during construction activities of the proposed project include non-recyclable items, such as treated wood and foam packaging, fiber-optic cable remnants, and coated paper products. The generated waste would be collected in labeled containers on a daily basis. It is anticipated that 80 percent of the solid waste generated during construction would be recyclable; the remaining 20 percent would be disposed of in a local landfill.

Proposed project construction activities would be served by landfills in the area (refer to Table 5.17-1). The Anderson Landfill, located approximately 2 miles southeast of the proposed project area, would receive some of the proposed construction debris. In addition, the West Central Landfill, located approximately 2 miles southwest of the proposed project area, may also receive some of the proposed

project's construction debris. Both landfills have adequate capacities well through completion of the proposed project to accommodate anticipated waste. Therefore, impacts under this criterion would be less than significant.

Significance: Less than significant.

g) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

As described above, proposed project area would have sufficient capacity to accommodate the proposed project's solid waste disposal needs. **APM PSU-1** would ensure that the applicant and/or its contractors would recycle solid waste generated during construction to the extent practicable. The proposed project would comply with applicable federal, state, and local statutes and regulations related to solid waste. Therefore, there would be no impact under this criterion.

Significance: No impact.

Mitigation Measures

Because impacts on all utilities and service systems for the proposed project would be less than significant or nonexistent, no mitigation measures are required.

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5.20 Wildfire

5.20.1 Environmental Setting

Wildfires are increasingly common in the western United States, including California (EPA 2016). California is especially prone to wildfires during the hot and dry summer months, when dry vegetation can quickly ignite. Wildfires have numerous causes, such as unpermitted campfires, sparks from vehicles or utility lines, natural events such as lightning strikes, and presenting a significant hazard to both the health and wellbeing of California residents and to existing facilities and infrastructure.

Wildfire Hazards

The California Department of Forestry and Fire Protection (CAL FIRE) identifies and maps areas of substantial fire hazards based on fuels, terrain, weather, and other relevant factors (CAL FIRE 2012a). CAL FIRE maps indicate that the proposed project area and vicinity are within a State Responsibility Area (SRA) and classified as a “Very High” Fire Hazard Severity Zone (CAL FIRE 2007). CAL FIRE identifies a fire hazard as a measure of the likelihood of an area burning and the intensity and speed with which it would burn. Fire hazard maps are developed based on the vegetation, topography, and weather in an area and how these factors may contribute to the potential for wildland fires (CAL FIRE 2012a).

During the 2013 Clover Fire, over 8,000 acres, 68 residences, and 128 outbuildings were destroyed in the community of Igo, the western terminus of the proposed fiber optic cable route (CAL FIRE 2013). In summer 2018, the southernmost extent of the 229,651-acre Carr Fire reached Igo. In total, the Carr Fire damaged more than 1,000 structures located north of the proposed project area (CAL FIRE 2019).

Shasta County’s 2011 Multi-Jurisdictional Hazard Mitigation Plan notes that the area in the vicinity of the proposed project the community of Igo are located in the “Brush Area” of the county. The Brush Area is characterized as urbanized, with structures typically having single, unmaintained roads for fire emergency access. The threat to life and property from wildlife in these areas is considered high. Additionally, as described in greater detail in Section 5.4, “Biological Resources,” the dominant natural community throughout the proposed project area is Blue Oak-Digger Pine Woodland, with some Northern Yellow Pine Forest located in Igo. The Multi-Jurisdictional Hazard Mitigation Plan notes that fire suppression and exclusion in the western United States, including California, has caused increasingly intense wildfires within mixed-conifer forest types. Rather than the low-intensity fires historically common in these natural communities, very intense and highly severe fires are increasingly common. (Shasta County and City of Anderson 2011)

Emergency Evacuation Routes

The Shasta County Emergency Operations Plan does not identify any roads in the proposed project area as emergency evacuation routes (Shasta County 2014).

Wildfire Management

Battalion 4 of the Shasta County Fire Department and Volunteer Fire Community 50 Igo-Ono provide firefighting and emergency response services for automobiles, boats, structures, traffic collisions, and more. However, wildland firefighting services are generally beyond the scope of local fire departments. The majority of the proposed project would fall within an SRA for wildfire control and management. In an SRA, the State of California maintains the financial responsibility for wildfire protection and management. The proposed project area also would run adjacent to small segments of land considered a Federal Responsibility Area (FRA), where the federal government is financially responsible for wildfire management; most of the land north of the proposed project area falls under FRA designation (CAL FIRE

2007). This includes U.S. Forest Service land within Shasta-Trinity National Forest, and National Park Service land within the Whiskeytown National Recreation Area.

Because wildfires may spread rapidly beyond established property boundaries, state agencies, including CAL FIRE, often work cooperatively with federal agencies, such as the U.S. Forest Service, the Bureau of Land Management, and the National Park Service to help promptly contain wildfires and prevent further spreading (CAL FIRE 2012b). Therefore, while SRAs and FRAs function to identify the agencies financially responsible for wildfire management in a specific area, any number of agencies may respond to a wildfire in either responsibility area based on wildfire containment needs.

5.20.2 Regulatory Setting

Federal

Department of the Interior Department Manual Part 620: Wildland Fire Management. Part 620 of the Department of the Interior Departmental Manual pertains to wildland fire management policies, with the goal of providing an integrated approach to wildland fire management. The guiding principles of the plan emphasize the need for public health and safety considerations, risk management protocols, inter-agency collaboration, and economic feasibility of wildfire management practices, as well as the ecological role of wildfires (DOI 2017).

Federal Wildland Fire Management Policy. The 2009 update to the Federal Wildland Fire Management Policy, as implemented by the “Guidance for Implementation of Federal Wildland Fire Management Policy,” recommends fire management strategies and programs that promote inter-agency collaboration, improve land management methods, ensure public safety, and recognize the ecological role of wildfires. (USDA and DOI 2009)

State

State of California Government Code Section 51179. California Government Code Section 51179 requires that local agencies designate “Very High” Fire Hazard Severity Zones within their jurisdiction, unless existing standards are equal to or more restrictive than Very High Fire Hazard Severity Zones. Local governments may designate additional areas not previously identified as “Very High” Fire Hazard Severity Zones based on substantial evidence, including surrounding vegetation that could function as wildfire fuel, regional topography, and weather patterns. Upon designation, areas identified as Very High Fire Hazard Severity Zones are subject to protective restrictions on activities such as building construction and road width requirements to ensure that land use patterns are consistent with wildfire management, prevention strategies, and containment needs (State of California 2018).

California Senate Bill No. 1241. California Senate Bill No. 1241 requires that the Safety Element component of city or county general plans incorporate fire risk in SRAs and Very High Fire Hazard Severity Zones. It also requires that the State of California Office of Planning and Research coordinate with CAL FIRE to develop guidelines to ensure that wildfire risk is adequately evaluated under CEQA (State of California 2016).

Strategic Fire Plan for California. On an annual basis, the State of California Board of Forestry and Fire Protection works collaboratively with CAL FIRE to produce an updated fire plan that describes policies intended to help the State of California better respond to wildfire emergencies. The plan emphasizes the need to manage wildfires in a way that protects lives while ensuring ecosystem health and sustainability. It also discusses collaborative interagency strategies for wildfire management that help contain wildfires to minimize spreading. To implement the policies described in the statewide Strategic

Fire Plan for California, CAL FIRE has established 21 units and six counties that develop their own individual Strategic Fire Plans, also updated annually.

Underground Service Alert (DigAlert). California Government Code 4216 et seq. defines mandatory notification procedures for subsurface excavations and installations. Pursuant to Section 4216 et seq., the applicant must contact the Underground Service Alert of Northern California, also known as DigAlert, at least two, but no more than 14, working days prior to conducting excavation activities for each component of the proposed project. DigAlert ensures that project activities do not encounter existing utility infrastructure that could present an accidental fire risk, such as natural gas lines (Underground Service Alert of Southern California 2018).

Local

Shasta County Multi-Jurisdictional Hazard Mitigation Plan. The Shasta County Multi-Jurisdictional Mitigation Plan identifies and analyzes existing hazards within Shasta County. Chapter 4.3.2 identifies wildfire risk within the county, including risks specific to the wildland-urban interface in which the proposed project would be located. The plan implements and sustains actions that reduce wildfire vulnerability and risk, or that would reduce the severity of wildfire impacts to people and property in Shasta County. (Shasta County and City of Anderson 2011)

Shasta County General Plan. The Shasta County General Plan provides policy direction for land development in unincorporated Shasta County. Chapter 5.0, the Public Safety Group, describes circumstances that define basic constraints on land use as they pertain to public safety. Chapter 5.4 Fire Safety and Sheriff Protection discusses wildland fires and non-wildland fires as two distinct hazards in Shasta County. The plan describes common Shasta County vegetation types that often fuel wildfires, and identifies responsible fire control agencies in Shasta County. (Shasta County 2004)

Shasta-Trinity Unit Strategic Fire Plan. To implement the policies and strategies described in the Strategic Fire Plan for California (see Section 5.20.2, “Regulatory Setting,” “State,” above), CAL FIRE has identified 21 units and six counties that must develop localized Strategic Fire Plans. The Shasta-Trinity Unit Strategic Fire Plan establishes fire management strategies within SRAs. The plan locally incorporates goals from the Strategic Fire Plan for California to better focus implementation. Specifically, the Shasta-Trinity Unit Strategic Plan describes the brush-dominant vegetation (see Section 5.20.1, “Environmental Setting,” above) as an area historically prone to wildfire events. The plan also describes local firefighting capacity and outlines pre-fire management strategies specific to the region. (Shasta County Fire Department and CAL FIRE 2018)

5.20.3 Environmental Impacts and Mitigation Measures

Potential project impacts associated with wildfire risk were evaluated according to significance criteria in Appendix G of the CEQA Guidelines. Both the construction and maintenance/operations phases were considered; however, because the construction phase could result in physical changes to the environment, analysis of construction phase effects warranted a more detailed evaluation.

Applicant Proposed Measures

On December 28, 2018, the California Natural Resources Agency adopted the revised CEQA Guidelines, which included the addition of a new wildfire impact analysis. The Proponent’s Environmental Assessment for the proposed project was published in 2015; therefore, no project applicant-proposed measures (APMs) are directed specifically towards wildfire risk mitigation. However, applicable APMs from other resource area sections that pertain to safety and fire management are incorporated where relevant when their implementation would minimize or avoid potential project impacts related to

wildfires. Additionally, Mitigation Measure (MM) GEN-1 requires implementation of all project APMs to mitigate impacts, including those pertaining to wildfires. A list of all proposed project APMs is included in Table 4-2 in Chapter 4, "Project Description."

Significance Criteria

Table 5.20-1 describes the significance criteria from Appendix G of the CEQA Guidelines' wildfire section, which the CPUC used to evaluate the environmental impacts of the proposed project.

Table 5.20-1 Wildfire Checklist

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

a. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Construction of the proposed project would occur in and along existing Shasta County roads, roadways, and rights-of-way (ROWs). Such activities would result in temporary, short-term lane closures throughout the proposed project area, but would not result in the permanent closure of any roads or lanes. Directional boring would be used to install 5 miles of the cable alignment in 1,500-foot increments via three to four bore shots per day. Bulldozers would be used along 10.3 miles of the cable alignment in 1,000-foot increments. When required, traffic control would be set up for construction and maintenance.

Shasta County's Emergency Operations Plan does not designate any roads within the proposed project area as major transportation or evacuation routes. However, in the event of a wildfire emergency either within or outside of the proposed project area, project-related equipment staged or operating within public ROW could impede emergency wildfire responder access. Once operational, project maintenance to service the fiber optic cables from the Digital Loop Carrier cabinets would involve parking a vehicle in a safe location along the existing roadway, on an as-needed basis. While maintenance activities would be minimal, vehicles staged on the roadside to conduct operational maintenance could potentially interfere with emergency response or evacuation. However, implementation of MM TRA-2 would require the applicant to perform such activities in a manner that maintains emergency access on roadways at all

times. With the implementation of MM TRA-2, impacts would be less than significant under this criterion.

Significance: Less than significant with mitigation.

b. Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Wildfires present direct hazards, such as threats to life, property, and infrastructure, as well as secondary hazards, such as exposing populations to particulate air pollutants that are harmful to human health. Smoke, ash, and other particulate air pollutants can be hazardous to both healthy and susceptible populations. Populations near wildfires are at the greatest risk of exposure to these pollutants. Furthermore, as described in greater detail in Section 5.6, “Geology and Soils,” the proposed project would be sited along roadsides with relatively flat topography on either side of the proposed fiber-optic telecommunications cable. The construction of the proposed project would not alter existing site topography or create slopes that would increase topographic susceptibility to wildfires and subsequently expose people to such risks.

Additionally, as described in greater detail in Section 5.13, “Population and Housing,” the proposed project would not directly induce substantial population growth in the vicinity. However, indirect population growth could occur as a result of the proposed project; while the proposed project is meant to serve existing residents, an extension of infrastructure could indirectly accommodate future growth by providing new telecommunications infrastructure to an area that previously did not have access. Therefore, while implementation of the proposed project would not directly increase the amount of individuals that may be subject to wildfire-related risks within the vicinity, additional individuals could be exposed to such hazards as a result of indirect population growth. Overall, however, substantial indirect population growth is not expected, because the proposed project would not involve installation of additional utility infrastructure required to support additional housing in the vicinity.

Furthermore, high wind speeds can carry wildfire smoke and suspended particulate matter substantial distances, degrading air quality in locations both near and far from the wildfire. While wildfires can occur at any time of year, wildfires in California occur predominantly in the summer and fall months. Wind speeds in Redding, California, in July and August 2018, the months in which the Carr Fire occurred near the proposed project area, were regularly sustained between 15 and 20 miles per hour, with maximum wind speed reaching 30 miles per hour (Weather Underground 2019). Regular heavy winds such as these not only increase the rate at which a wildfire can spread, but also carry ash and other pollutants in the direction of the wind.

As described in Section 5.20.1, “Environmental Setting,” above, the proposed project would be located in an area designated as a Very High Fire Hazard Severity Zone. Areas situated within a Very High Fire Hazard Severity Zone are naturally more susceptible to wildfires than areas outside of this designated zone. Current climatic conditions within the proposed project area such as high wind speeds and hot, dry summers elevate the regional wildfire risk. Therefore, a current wildfire event within or near the proposed project area could potentially expose people both within the proposed project area vicinity and within the broader region to windborne pollutants from the wildfire.

While the proposed project would not affect wind conditions or the surrounding topography, construction activities would involve the operation of construction equipment and support vehicles adjacent to wildlands. Because the area surrounding the proposed project would be located within a Very High Fire Hazard Severity Zone and is historically prone to wildfires, there is potential risk of fire ignition by

equipment parked on dry vegetation. Any flammable liquids, such as gas and oil, spilled during construction would also contribute to an increased risk of fire if ignited by an open flame or spark.

To minimize the potential that the proposed project would increase the risk of wildfire during the construction phase, the applicant would implement **APM HAZ-1**, **APM HAZ-2**, and **APM HAZ-5**. These measures would reduce the risk of wildland fire by ensuring that flammable materials are labeled, stored, and used appropriately; ensuring that contractors are properly trained in handling flammable hazardous materials; and requiring that spill clean-up kits be provided and kept on site during construction to clean up any spilled flammable liquids. **APM HAZ-6** would be implemented to reduce the potential for wildland fires caused by the proposed project by requiring workers to be instructed regarding the danger of wildland fire and carefully parking equipment in areas without dry, brushy vegetation. In addition, all work vehicles shall be equipped with a working fire extinguisher. Cigarettes and trash shall be disposed of in proper containers and taken off site at the end of the day. **MM GEN-1** would ensure that the applicant would implement all proposed APMs. With the implementation of **APM HAZ-1**, **APM HAZ-2**, **APM HAZ-5**, and **APM HAZ-6**, and **MM GEN-1**, impacts would be less than significant under this criterion.

Significance: Less than significant with mitigation.

c. Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

As described above, construction of the proposed project would occur in and along existing Shasta County roads, roadways, and ROWs. The proposed project would be installed entirely within existing roadways and would not require new associated infrastructure to facilitate construction and operation. Once in operation, buried fiber optic utility lines would be in place, as well as seven new Digital Loop Carrier cabinets, each measuring 2 by 3 by 4 feet. These cabinets would be enclosed and, during project operation, would be accessed only to perform routine maintenance on the buried fiber optic cable lines.

Ongoing maintenance would be required, with crews likely driving to the site to perform maintenance activities. Maintenance crews would access the project using the existing roadways in the vicinity; accordingly, the potential for wildfires associated with project operation would be similar to existing wildfire hazard conditions within the vicinity and would not exacerbate fire risk. Therefore, implementation of the proposed project would have a less than significant impact under this criterion.

Significance: Less than significant.

d. Would the project 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?

Wildfires present direct hazards, such as threats to life, property, and infrastructure, as well as secondary hazards such as landslides. When heavy precipitation follows a wildfire event, steep-sloped areas that were formerly vegetated are prone to landslides (USGS 2018). However, as described in greater detail in Section 5.6, "Geology and Soils," while landslides are known to occur throughout Shasta County, the proposed project area is not identified as spanning terrain that is susceptible to landslides, and the Shasta County General Plan does not identify landslides as a significant geologic hazard within the proposed project area (Shasta County 2004). Furthermore, the relatively flat topography of the proposed project alignment and its distance from hills, mountains, or slopes make landslides unlikely. Landslides in Shasta County are most commonly associated with instability along volcanic rockslopes in the eastern and

1 norther portions of the county and do not usually result from wildfires (Shasta County 2004). Because
2 construction of the proposed project would not alter topography or create slopes that would increase
3 topographic susceptibility to wildfires or landslides, subsequently exposing people to such risks, there
4 would be no impact under this criterion.

5
6 **Significance: No Impact.**

7
8 **Mitigation Measures**

9 See Section 5.3, “Air Quality” for **MM GEN-1**.
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5.21 Mandatory Findings of Significance

5.21.1 Environmental Impacts and Assessment

This section discusses mandatory findings of significance, as well as potential cumulative and growth-inducing impacts, related to the proposed project. CEQA Guidelines Section 15065 requires that the lead agency determine whether the proposed project would have a significant effect on the environment. Table 5.21-1 contains the criteria for making the determination.

Table 5.21-1 Mandatory Findings of Significance Criteria

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

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

Biological Resources

The proposed project would be installed along an existing right-of-way within the bed or shoulder of established roadways. The topography in the proposed project area is relatively flat, and land use in the area can be generally classified as rural residential and agricultural (e.g., orchards and grazing). Olive orchards are present in the central portion of the proposed project area along Scout and Olive Streets, and open woodland occurs in the vicinity of Happy Valley Road at Spring Gulch and along the western portion of Cloverdale Road to the western end of the project area. There are 29 drainages and eight wetlands in the proposed project area, which are all considered potentially jurisdictional. All aquatic features and associated riparian vegetation would be avoided, and no intact woodlands or forest habitats would be impacted by the proposed project. While no special status plant species were observed during

surveys, several have a moderate potential to occur in the proposed project area, including Nuttall's ribbon-leaved pondweed (*Potamogeton epihydrus*), pink creamsacs (*Castilleja rubicundula* var. *rubicundula*), red bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*), and silky cryptantha (*Cryptantha crinita*). All of these plant species are typically found in riparian, wetland or vernal pool habitats, which would all be avoided because installation of the fiber-optic communications cable (telecom line) would involve boring under all wetlands and drainage features, and no vernal pools were observed during surveys. Therefore, the proposed project would not reduce the number or restrict the range of any rare or endangered plant species.

A bald eagle was observed during surveys, and there is a moderate potential for pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and western red bat (*Lasiurus blossevillei*) to occur in the proposed project area. There is a low potential for western spadefoot (*Spea hammondi*), western pond turtle (*Emys marmorata*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool tadpole shrimp (*Lepidurus packardii*), vernal pool fairy shrimp (*Branchinecta lynchi*), California red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylei*), bank swallow (*Riparia riparia*), tricolored blackbird (*Agelaius tricolor*), northern spotted owl (*Strix occidentalis caurina*), Swainson's Hawk (*Buteo swainsoni*), and Fisher (*Pekania pennant*) to occur in the project area. As discussed in greater detail in Section 5.4, "Biological Resources," the applicant would implement Applicant Proposed Measures (APMs) as part of the proposed project, which would reduce the potential for significant impacts to all species except nesting birds.

Impacts on nesting birds may be significant if construction activities occur within the nesting bird season, February 1 to August 31. The applicant would be required to implement Mitigation Measure (MM) **BIO-1**, requiring nesting bird surveys to be completed if work occurs in the nesting bird season. If there are active nests, a buffer would be established and a biological monitor would be required to be present if construction were to occur in the vicinity of the nests. With mitigation, the proposed project would not reduce the number or restrict the range of any rare or endangered animal species. There are no known native wildlife nursery sites or migratory routes for any native resident or migratory fish or wildlife species in the proposed project area. The proposed project would not fragment any wildlife habitat. The impacts would be less than significant after implementing the above-stated mitigation measure and APMs.

Cultural Resources

As described in Section 5.5, "Cultural Resources," several known historical resources were identified within the general vicinity of the proposed project area; however, one historical resource (Igo Inn) was assumed to be eligible for the California Register of Historic Resources in this environmental document, but is not within the area of direct impact. The proposed project would be installed on the southern (opposite) side of the existing roadway from the Igo Inn. As the roadway acts as a buffer, the proposed project would not likely cause vibratory impacts to the structure. The visual and auditory impacts would not constitute a substantial adverse change, as they would not involve physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings. The impacts also would be temporary in nature. Although it is unlikely that a cultural resource would be discovered during excavation, there is potential for discovery. The applicant would implement APMs and Mitigation Measures, described in "Section 5.5, Cultural Resources," to reduce any potential impacts to less than significant.

b. Does the project have impacts that are individually limited, but cumulatively considerable?

A cumulative impact is when “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts” (CEQA Guidelines section 15355). Table 5.21-2 lists past, current, and probable future projects in the proposed project vicinity identified during preparation of this environmental document consistent with requirement in CEQA Guidelines section 15130(b)(1)(A).

Projects Considered

Table 5.21-2 lists past, current, and probable future projects in the proposed project vicinity identified during preparation of this environmental document. Generally, the geographic scope used in the search for past, current, or probable future projects was limited to projects within 5 miles of the proposed project area, because the proposed project’s environmental impacts have been determined to be relatively minor and primarily locally concentrated. With the exception of air quality and GHG emissions, the proposed project would not have regional impacts, and as described below, the proposed project’s air quality impacts would not be cumulatively considerable. The list in Table 5.21-2 was compiled by contacting local, state, and federal agencies regarding planned projects and projects currently under construction. The following agencies were queried:

- Shasta County
- Bureau of Land Management, Planning Project Search
- California Department of Transportation

As described, projects generally within 5 miles were evaluated for inclusion in the cumulative impacts analysis. Projects carried forward for analysis in this section and listed in Table 5.21-2 are probable future projects with impacts that would combine with impacts of the proposed project.

Table 5.21-2 Cumulative Project List

No.	Project Name	Project Description	Location and Distance from Proposed Project Area	Status	Duration of Construction
1	Gas Point Road Widening	The project would involve a two-way left turn lane, paved and unpaved shoulders to reduce the number of crash frequencies and severity related to vehicles slowing and stopping to make left turns along Gas Point Road. Multiple utilities would be relocated along the corridor. Culverts would be added and lengthen throughout the project. In addition, a temporary construction easement and staging would be acquired at the northeast end of the project.	Gas Point Road between Keri Lane and Charles Street. Approximately 4.5 miles southeast of the proposed project area.	Estimated construction start date: 7-30-2018	Approximately 30 days.
2	Olinda Road Widening Phase II	The project would involve wider paved shoulders along the Olinda Road corridor, enhancing motorists ability to recover and providing space for broken down vehicles to pull out of the travelled way. Widening of the roadway would involve adding 3-foot-wide paved	Olinda Road between Sammy Lane and Red Leaf Lane. Approximately 1 mile east of the	Estimated construction start date: 7-30-2018	Approximately 35 days.

Table 5.21-2 Cumulative Project List

No.	Project Name	Project Description	Location and Distance from Proposed Project Area	Status	Duration of Construction
		shoulders to the existing 1-foot shoulder, providing a total shoulder width of 4 feet on both sides of the roadway. Utility poles and culverts would be replaced with some culverts being lengthened.	proposed project area.		
3	Gas Point Road at No Name Ditch Bridge Replacement	The project involves replacing the existing bridge with a wider box culvert and widen the approaches. The roadway would conform to the existing roadway to the east and the proposed roadway to the west. The widening would involve adding a two-way-left turn lane. Multiple utility poles would be re-located along the corridor. A temporary detour would be constructed to the south of the existing box culvert so the roadway remains open to the public. A temporary construction easement and staging would be required at the northeast end of the project.	Gas Point Road, approximately 175 feet east of the intersection of Charles Street. Approximately 5 miles southeast of the proposed project area.	Estimated construction start date: 7-8-2019	Approximately 80 days.
4	Lower Gas Point Road at North Fork Cottonwood Creek Bridge Replacement	Shasta County Public Works is preparing to replace the Lower Gas Point Road at North Fork Cottonwood Creek Bridge Replacement. The existing bridge is a two-span 200-foot-long by 12-foot-wide steel truss structure. The proposed bridge is a 220-foot-long by 23.54-foot-wide, two-span cast in place, and pre-stressed box girder bridge on a slightly different alignment. The new bridge alignment is located directly south of the existing alignment.	Approximately 5 miles southwest of the proposed project area.	Estimated construction start date: 7-8-2019	Approximately 100 days.

Sources: Ankeny 2017

No past projects were identified that would have the potential to cause future cumulative impacts not represented by existing conditions. The Olinda Road Widening Phase II Project would occur on Olinda Road near two of the proposed DLC sites; however, the proposed project is scheduled to be completed several months before the Olinda Road Widening Project would occur. Thus, for the purpose of this analysis, it is assumed that existing baseline conditions are indicative of past and current projects, and so the cumulative analysis is limited to the potential contribution of the proposed project in conjunction with planned and reasonably foreseeable future projects.

Cumulative Impacts

The proposed project would have no impact on mineral resources, or on population and housing; therefore, it would not have a cumulatively considerable contribution when considered in combination with reasonably foreseeable projects.

1 ***Aesthetics***

2 Construction activities and features may increase visual contrast and reduce vividness, intactness, and
3 unity within the proposed project area. Construction equipment and activities would introduce new and
4 additional elements in short-range views. However, following installation of the telecom line, disturbed
5 areas would be re-graded and restored, resulting in minimal long-term evidence of change to the
6 landscape along the road edge. Although implementation of the proposed project in combination with
7 reasonably foreseeable projects could result in potential cumulative visual impacts, construction of the
8 proposed project would occur over 60 to 120 days and the presence of construction activities and
9 equipment at locations throughout the proposed project area would be temporary. As a result, the
10 proposed project would cause minimal changes to the visual quality and character of the area and would
11 not have a considerable contribution to a cumulative impact.

12
13 ***Agriculture and Forestry Resources***

14 The proposed project area would be located immediately adjacent to Prime Farmland, Unique Farmland,
15 and Farmland of Statewide Importance. However, as described in Chapter 4, "Project Description,"
16 proposed project components would be installed along Shasta County roads and private roads via
17 directional boring, plowing, and trenching and would not occur within areas that are actively cultivated
18 for agricultural purposes. The proposed project would further avoid any potential impact because it would
19 require that the applicant avoid any orchards adjacent to the proposed project alignment. Similarly, many
20 of the other reasonably foreseeable projects considered are related to infrastructure improvements, which
21 would not likely have substantial impacts on agricultural resources. As a result, the proposed project
22 would not have a considerable contribution to a cumulative impact.

23
24 ***Air Quality/Greenhouse Gases***

25 The proposed project would contribute some amount to existing air quality issues in the proposed project
26 area and Sacramento Valley Air Basin. As discussed in Section 5.3, "Air Quality," the proposed project
27 area is in nonattainment for the criteria pollutants ozone and particulate matter less than 10 microns.
28 Emissions of criteria pollutants would result from vehicle and equipment exhaust, as well as fugitive dust
29 from travel, earthmoving, and site grading during construction of the proposed project. Plowed and
30 trenched installation for the underground telecom line would involve ground disturbing activities that
31 would generate fugitive dust. Construction emissions estimates, along with the thresholds of significance
32 for criteria pollutants emitted during construction, are all below the "B" thresholds of significance; see
33 Section 5.3, "Air Quality." Thus, the proposed project would be consistent with Shasta County Air
34 Quality Management District's management plans for ozone and particulate matter less than 10 microns.

35
36 As described in Section 5.7, "Greenhouse Gas Emissions," the proposed project would release
37 approximately 75 metric tons of carbon dioxide equivalent emissions during construction, and would not
38 release any GHG emissions during operation. While any amount of GHG emissions could theoretically
39 contribute to climate change, this amount would be nominal and would not be anticipated to have any
40 effect or interfere with California's ability to meet its emissions reduction targets under Assembly Bill 32.

41
42 Accordingly, the proposed project in combination with reasonably foreseeable projects could result in
43 potential cumulative air quality and GHG impacts. However, APMs would reduce potential project
44 impacts to less than significant, and all project-related impacts would be temporary in nature and would
45 not last beyond the approximate 60 to 120 day construction period. As a result, the proposed project
46 would not have a considerable contribution to a cumulative impact.

1 ***Biological Resources***

2 The proposed project area includes drainages and wetlands that are all considered to be potentially
3 jurisdictional. However, the proposed project design would avoid such jurisdictional water entirely by
4 boring underneath. Special status plants and wildlife were also identified to be present within the
5 proposed project area. Although the proposed project would be constructed within the existing right-of-
6 way, special status plants in the proposed project area could be impacted if invasive plants are spread into
7 areas of native vegetation. In addition, construction activities could impact special status wildlife or
8 nesting birds. Accordingly, the proposed project in combination with reasonably foreseeable projects
9 could have a potential cumulative effect on biological resources. However, APMs and mitigation
10 measures would reduce potential project impacts to less than significant, and all project-related impacts
11 would be temporary in nature and would not last beyond the approximate 60 to 120 day construction
12 period. As a result, the proposed project would not have a considerable contribution to a cumulative
13 impact.

14
15 ***Cultural Resources/Tribal Cultural Resources***

16 Several known historical resources were identified within the general vicinity of the proposed project
17 area; however, one historical resource (Igo Inn) was assumed to be eligible for the California Register of
18 Historic Resources in this environmental document, but is not within the area of direct impact. In
19 addition, consultation with California Native American tribes in accordance with Assembly Bill 52
20 resulted in the identification of the Cloverdale Cemetery as an area of concern for the Wintu Tribe of
21 Northern California & Toyon-Wintu Center. Implementation of the proposed project in combination with
22 implementation of other reasonably foreseeable projects has the potential to uncover unknown cultural
23 resources, thus resulting in a potential cumulative effect on cultural resources if unmitigated. APMs and
24 mitigation measures would reduce potential project impacts to less than significant by ensuring proper
25 identification and treatment of both known and undiscovered resources. Project-related impacts would be
26 temporary in nature and would not last beyond the approximate 60 to 120 day construction period. As a
27 result, the proposed project would not have a considerable contribution to a cumulative impact.

28
29 ***Energy***

30 The proposed project would result in less than significant impacts on the wasteful, inefficient, or
31 unnecessary use of energy due to compliance with fuel efficiency standards for heavy-duty vehicle and
32 off-road equipment use during construction. Similar to future telecommunication projects, any cumulative
33 projects would be subject to various federal and state regulations, including the Low Carbon fuel
34 Standard, Pavley Clean Car Standards, and the Low Emission Vehicle Program, which would serve to
35 reduce the transportation fuel demand by cumulative projects.

36
37 Additionally, cumulative projects that include commercial and residential building construction and
38 operation would be required to comply with the California Green Building Standard Code, which includes
39 increasingly stringent energy efficiency standards for cumulative projects to minimize the wasteful and
40 inefficient use of energy. Future development projects would also be required to meet even more stringent
41 requirements including the objectives set in the AB 32 Scoping Plan, which would seek to make all new
42 constructed residential homes net-zero energy consumers by 2020 and all new commercial buildings net-
43 zero energy consumers by 2030.

44
45 The proposed project would not contribute to a substantial demand on energy resources and services
46 because no new regional energy facilities would be required to be constructed as a result of the
47 incremental changes in energy demand resulting from such projects. With adherence to the increasingly
48 stringent vehicle efficiency standards as well as implementation of design features that would reduce
49 energy consumption, the proposed project would not contribute to a cumulative impact related to the

wasteful or inefficient use of energy. As such, the proposed project would not result in a cumulatively considerable contribution to energy resource impacts.

Geology and Soils

The proposed project area is relatively flat and is not conducive to landslides, on- or offsite, nor is it in an area of known liquefaction danger. In addition, it does not intersect with any known Alquist-Priolo Earthquake Fault Zone. Excavations would be relatively shallow (approximately 40 inches) and, for the most part, would be filled within 24 hours. However, the proposed project would involve trenching, and bare soils would be exposed immediately following construction and would become more susceptible to erosion. As a result, the proposed project, in combination with other reasonably foreseeable projects, could have a potential cumulative effect with regard to soil erosion if unmitigated. All projects would be required to comply with the requirements of the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) permits. In addition, the applicant would prepare a Stormwater Pollution Prevention Plan (SWPPP) outlining best management practices to control discharge from construction areas. APMs and mitigation measures would reduce potential project impacts to less than significant, and all project-related impacts would be temporary in nature and would not last beyond the approximate 60 to 120 day construction period. As a result, the proposed project would not have a considerable contribution to a cumulative impact.

Hazards and Hazardous Materials

During construction of the proposed project, common hazardous materials such as gasoline, diesel fuel, motor oil, antifreeze, transmission fluids, and hydraulic fluids would be used to operate construction equipment. Operation and maintenance activities would include periodic vehicle trips to Digital Loop Carrier cabinets to connect and disconnect customers, and periodic vegetation trimming. The proposed project in combination with reasonably foreseeable projects would transport, use, or dispose of hazardous materials and petroleum products in accordance with all applicable federal, state, and local regulations. However, accidental releases or spills could still occur, representing a potential hazard to the public and environment during construction, which could result in a potential cumulative impact. Because of the temporary nature of the construction activity, lasting less than six months (and much more briefly in any one location along the alignment), the transport, use, and/or disposal of small quantities of hazardous materials is not routine or considered a permanent aspect of the proposed project.

APMs and mitigation measures would reduce potential project impacts to less than significant. All project-related impacts would be temporary in nature, and would not last beyond the approximate 60 to 120 day construction period. As a result, the proposed project would not have a considerable contribution to a cumulative impact.

Hydrology and Water Quality

Construction of the proposed project would involve ground disturbance and trenching that has the potential to increase sediment erosion and transport within the proposed project area, possibly degrading the water quality of receiving waters within and adjacent to the proposed project area. The majority of the proposed project would involve the installation of the telecom line underground, which would not alter the existing drainage patterns of the area. The proposed project would involve the construction of seven new 2- by 3-foot DLC cabinets. While these cabinets would constitute new impervious surfaces, their small size would mean that, collectively, they would contribute to a negligible increase in runoff in the proposed project area. As a result, the proposed project in combination with other reasonably foreseeable projects could result in a potential cumulative effect. However, all projects would be required to comply with the requirements of the SWRCB NPDES permits. In addition, the applicant would prepare a SWPPP outlining best management practices to control discharge from construction areas. APMs would reduce potential project impacts to less than significant, and all project-related impacts would be temporary in

1 nature and would not last beyond the approximate 60 to 120 day construction period. As a result, the
2 proposed project would not have a considerable contribution to a cumulative impact.

3 4 ***Land Use and Planning***

5 Physical division of an established community could occur through construction of physical barriers or
6 obstacles to access and circulation. The proposed project would involve installation of
7 telecommunications infrastructure that would be buried in conduit within utility easements in the
8 shoulders of existing roadways. Once installation of the proposed telecommunications infrastructure is
9 complete and operational, the proposed project's aboveground physical infrastructure would be limited to
10 seven DLC sites, which would include a 2- by 3- by 4-foot equipment cabinet, an 8-inch by 8-inch by 2-
11 foot cross connect box, and a 20-square-foot area of gravel around each equipment cabinet. Similarly,
12 many of the other reasonably foreseeable projects considered are related to infrastructure improvements,
13 which would not likely have conflicts with existing land uses. The proposed project would not disrupt or
14 physically divide surrounding communities and would not conflict with applicable policies in the Shasta
15 County General Plan. As a result, the proposed project would not have a considerable contribution to a
16 cumulative impact.

17 18 ***Noise and Vibration***

19 During construction, equipment operation would generate noise and vibration to install proposed project
20 components. Most of the 735 residences within 1,000 feet of the proposed alignment are more than 100
21 feet from the proposed alignment and would not be exposed to the maximum noise levels. Plowing and
22 trenching construction techniques used for buried line installation, as well as directional boring and
23 general operation of construction equipment, would produce groundborne vibration but would be well
24 below Federal Transit Administration thresholds. Operation of the proposed project would not result in
25 any groundborne vibration or groundborne noise levels, because the telecom line would be buried along
26 existing roads. APMs and mitigation measures would reduce potential project impacts to less than
27 significant and construction-related noise would be temporary, lasting an estimated 60 to 120 days.
28 Project construction activities in combination with construction of other reasonably foreseeable projects
29 would not occur at the same time nor would it be concentrated in one area. As a result, the proposed
30 project would not have a considerable contribution to a cumulative impact.

31 32 ***Recreation/Public Services/Utilities***

33 Project construction crews are expected to be composed of a maximum of 20 to 30 employees on site at
34 any given time. Crews would be hired locally, so there would be no influx of large groups of employees
35 from outside of the region. Because construction crews would only temporarily occupy each segment of
36 the proposed project area before moving to install additional segments, expanded recreational resources,
37 public services, and utilities are not needed. Project construction in combination with other reasonably
38 foreseeable projects would not occur along the proposed alignment at the same time, nor would it be
39 concentrated in one area. As a result, the proposed project would not have a considerable contribution to a
40 cumulative impact.

41 42 ***Transportation and Traffic***

43 During the construction period, a maximum of 22 workers would be needed for all project components,
44 generating a total of 44 daily one-way trips. Additional trips would be generated for delivery of
45 construction equipment. Some construction workers and equipment delivery may utilize Interstate 5, State
46 Route 273, or other roadways identified as regionally significant corridors in the regional transportation
47 plan; however, these trips would be negligible compared to existing traffic volumes. Operation and
48 maintenance of the telecom line is expected to be minimal and not require any additional disturbance of
49 roadway lanes. Therefore, the proposed project would not increase population or vehicle trips, or

otherwise induce growth. However, the implementation of the proposed project in combination with implementation of other reasonably foreseeable projects could result in additional trips, lane closures, and detours on a more regional level. Such effects could result in a potential cumulative impact if unmitigated. However, APMs and mitigation measures would reduce potential project impacts to less than significant, and all project-related impacts would be temporary in nature, and would not last beyond the approximate 60 to 120 day construction period. As a result, the proposed project would not have a considerable contribution to a cumulative impact.

Wildfire

During construction of the proposed project, flammable or combustible liquids such as gasoline, diesel fuel, motor oil, antifreeze, transmission fluids, and hydraulic fluids would be used to operate construction equipment. Operation and maintenance activities would include periodic vehicle trips to Digital Loop Carrier cabinets to connect and disconnect customers, and periodic vegetation trimming. The proposed project in combination with reasonably foreseeable projects would involve the use of similar construction equipment and on-road vehicles (e.g., delivery trucks, light-duty vehicles, off-road construction equipment, heavy-duty diesel vehicles, and worker vehicles), and therefore, could create an increased risk of fire ignition by equipment parked on or near dry vegetation.

Any flammable or combustible liquids spilled during construction would also cumulatively contribute to an increased risk of fire if ignited by an open flame or spark. Accidental releases or spills of the aforementioned flammable or combustible liquids could occur, representing a potential risk of wildfire to the public and environment during construction, which could result in a potential cumulative impact. However, APMs and mitigation measures would reduce cumulative potential project impacts to less than significant by reducing the risk of wildland fires by ensuring that flammable materials are labeled, stored, and used appropriately; ensuring that contractors are properly trained in handling flammable materials; and requiring that spill clean-up kits be provided and kept on site during construction to clean up any spilled flammable liquids.

Furthermore, because of the temporary nature of the construction activity, lasting less than six months (and much more briefly in any one location along the alignment), the use of construction equipment and vehicles are not considered a permanent and frequent aspect of the proposed project. Operation and maintenance activities would be temporary, intermittent, and short-term. APMs and mitigation measures would reduce potential project impacts to less than significant. All project-related impacts would be temporary in nature, and would not last beyond the approximate 60 to 120 day construction period. As a result, the proposed project would not have a considerable contribution to a cumulative impact.

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

The proposed project would not cause substantial adverse effects on human beings either directly or indirectly. The proposed project would result in temporary impacts to human health during construction, including changes to air quality, exposure to geologic hazards, and exposure to hazardous materials. As discussed in Section 5.3, "Air Quality," air quality effects would be less than significant. As discussed in Section 5.8, "Hazards and Hazardous Materials," hazard impacts would be less than significant with implementation of APMs and mitigation measures, including preparation and implementation of a Hazardous Materials Management Plan and implementation of an updated Spill Prevention Control and Countermeasure Plan. Operation and maintenance activities would be comparable to current activities, and no additional impacts to human beings would occur.

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6. Mitigation Monitoring and Reporting Plan

Pursuant to Public Resources Code Section 21081.6 and Section 15097 of the California Environmental Quality Act (CEQA) Guidelines, when an agency finds that mitigation measures have been required in, or incorporated into, a project to avoid or substantially lessen its significant environmental effects, the agency must adopt a program for monitoring or reporting on such mitigation measures. The purpose of this Mitigation Monitoring and Reporting Plan (MMRP) is to ensure effective implementation of the applicant proposed measures (APMs) and mitigation measures required by the California Public Utilities Commission (CPUC) that the applicant has agreed to implement in connection with the proposed Olinda Last Mile Underserved Broadband Project (proposed project). The MMRP, which is outlined in Table 6-1, includes:

- Each significant impact identified in the Initial Study/Mitigated Negative Declaration (IS/MND);
- APMs and mitigation measures that the applicant is required to implement as part of the proposed project to reduce significant impacts to less than significant;
- Monitoring requirements;
- Timing for implementation of APMs and mitigation measures;
- Indicators for determining the effectiveness of implementation of APMs and mitigation measures; and
- Reporting requirements.

This MMRP is a draft program. The CPUC will formalize this MMRP for inclusion in the Final IS/MND, prior to construction, to include specific protocols that will be followed prior to, during, and after construction by the CPUC's and the applicant's designated environmental monitors and project staff (as described in Section 6.3, "Final Mitigation Monitoring and Reporting Plan"). The Final MMRP will include, but not be limited to, protocols and timelines for the following topics:

- Agency Jurisdiction
- Roles/Responsibilities
- Communication
- Compliance Verification and Reporting
- Project Changes, including Minor Project Refinements
- Dispute Resolution

The CPUC's designated Project Manager and environmental monitor (or monitors) will monitor the proposed project to verify full compliance with each APM and mitigation measure. The designated Project Manager will verify all compliance documentation required by APMs and mitigation measures, and the designated environmental monitor will regularly visit the proposed project to verify that APMs and mitigation measures are being implemented as described in the MMRP.

The CPUC-designated Project Manager and environmental monitor will keep a record of any incidents of non-compliance with mitigation measures, APMs, or other conditions of project approval, which will be supplied to the applicant and the CPUC. In all instances of non-compliance, the CPUC's designated Project Manager or environmental monitor may discuss necessary compliance corrections with the construction supervisor and/or the applicant's Project Manager. Continued non-compliance, or non-

1 compliance that puts environmental resources at risk, will be reported immediately to the CPUC Project
2 Manager. The CPUC (CPUC-designated environmental monitor, CPUC-designated Project Manager, or
3 the CPUC Project Manager) may decide to halt work due to non-compliance.
4

5 **6.1 Minor Project Refinements**

6
7 This section describes the CPUC's process for staff approval of Minor Project Refinements (MPRs) that
8 may be necessary due to changes needed after the applicant's final engineering of elements of the
9 proposed project. During the course of construction, circumstances may arise that require minor
10 deviations from the project as approved. The CPUC, along with the environmental monitors, would
11 evaluate any proposed deviations from the approved project to ensure they are consistent with CEQA
12 requirements. Depending on its nature, a requested deviation would be processed as an MPR or be the
13 subject of a Petition for Modification (PFM) submitted by the applicant to the CPUC.
14

15 MPRs would be strictly limited to minor project changes that do not trigger additional permit
16 requirements, do not increase the severity of a significant impact or create a new significant impact, and
17 are within the geographic scope of the IS/MND.
18

19 If a project change would create or have the potential to create a new significant impact, increase the
20 severity of a significant impact, or occur outside the geographic area evaluated in the IS/MND, TDS
21 would be required to submit a PFM. The CPUC would evaluate the PFM under CEQA, as appropriate, to
22 determine what form of supplemental environmental review would be required.
23

24 **6.2 Dispute Resolution**

25
26 The following procedure will be observed for dispute resolution between CPUC staff and applicant:
27

- 28 • Disputes and complaints should be directed to the CPUC-designated Project Manager for
29 resolution.
- 30 • Should this informal process fail, the CPUC Project Manager may initiate enforcement or
31 compliance action to address deviations from the approved project.
32

33 **6.3 Final Mitigation Monitoring and Reporting Plan**

34
35 A Final MMRP will be prepared for the Final IS/MND that incorporates any changes to the proposed
36 project or mitigation measures that are made as a result of public review of the Draft IS/MND and further
37 consideration of the proposed projects by the CPUC.
38

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
General					
MM GEN-1: Implementation of All APMs. The applicant shall implement all APMs as stated in this environmental document, except in cases where they are superseded by mitigation measures, and the physical and operational components of the project will not exceed the limits of Shasta County roads, roadways, and right-of-ways. The APMs shall be incorporated into the Mitigation, Monitoring, and Reporting Plan.	CPUC verifies implementation of APMs.	See effectiveness criteria for each APM below.	See timing for each APM below.	Entire project area	TDS, CPUC
Air Quality					
APM-AQ-1: TDS will require all construction contractors to implement the following measures for fugitive Particulate Matter (PM) less than 10 microns in diameter (PM10) control during construction: <ul style="list-style-type: none"> All disturbed areas, including bulk material storage that is not being actively utilized, shall be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover. All on- and off-site unpaved roads will be effectively stabilized, and visible emissions shall be limited to no greater than 20 percent opacity for dust emissions by non-toxic chemical stabilizers, dust suppressants, and/or watering. All track-out and carry-out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 15 linear m (50 linear feet) or more onto a paved road within an urban area. Bulk material shall be stabilized prior to movement or at points of transfer with the application of sufficient water, the application of chemical stabilizers, or by sheltering or enclosing the operation and transfer line. Vehicle speed for all construction vehicles shall not exceed 24.1 km (15.0 miles) per hour on any unpaved surface at the construction site. 	CPUC verifies that TDS meets SCAQMD threshold requirements and addresses pollutants of concern identified in the AQAP, and TDS verifies that all contractors operate below 15 miles per hour on all unpaved surfaces at the construction site.	Fugitive dust has been controlled (no greater than 20 percent opacity) inside the project area and on unpaved access roads.	During construction	Entire project area	TDS, CPUC
Biological Resources					
APM-BIO-1: All waterways and wetlands in the project area will be bored beneath and avoided during construction.	CPUC verifies that all waterways and wetlands are bored under and completely avoided during construction.	All waterways and wetlands are avoided during construction.	During construction	Entire project area	TDS, CPUC
APM BIO-2: Bore pits will be placed a minimum distance of 5 m (16 feet) beyond either the top of waterway banks or the maximum extent of any vegetation present along the waterways' margins.	CPUC verifies that no bore pits are placed within 16 feet of either the top of waterway banks or the maximum extent of any vegetation present along the waterways' margins.	Bore pits are placed a minimum distance of 16 feet beyond either top of waterway banks or maximum extent of any vegetation present along waterways' margins	During construction	All project areas where waterways will be bored underneath.	TDS, CPUC
APM-BIO-3: Bore pits will be placed a minimum distance of 76 m (250 feet) beyond either the edge of seasonal wetlands or the maximum extent of any vegetation present along the wetlands' margins.	CPUC verifies that no bore pits are placed within 250 feet of the maximum extent of any vegetation present along the wetlands' margins.	Bore pits are placed a minimum distance of 76 m (250 feet) beyond either the edge of seasonal wetlands or the maximum extent of any vegetation present along the wetlands' margins.	During construction	All project areas where wetlands will be bored underneath.	TDS, CPUC
APM-BIO-4: A Stormwater Pollution Prevention Plan (SWPPP) will be developed and will include Best Management Practices (BMPs) that will be implemented during construction to minimize or eliminate sediment transport from areas subject to ground disturbance.	Prior to construction, CPUC verifies that a SWPPP is developed, and includes BMPs. CPUC verifies that SWPPP and all associated measures are implemented during construction.	A SWPPP is prepared and implemented.	Prior to construction – prepare SWPPP During Construction – implement SWPPP and BMPs	Entire project area	TDS, CPUC

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
APM BIO-5: All orchards will be avoided during construction.	CPUC verifies that no orchards are impacted during construction.	No orchards are impacted during construction.	During construction	Entire project area	TDS, CPUC
APM-BIO-6: No trees will be removed during project construction. If vegetation trimming is required to complete the installations, trimming will be kept to the absolute minimum necessary.	CPUC verifies that no trees are removed during construction.	No trees are removed during construction. If vegetation trimming is necessary, it will be maintained in such a way that the vegetation remains viable after having been trimmed.	During construction	Entire project area	TDS, CPUC
MM BIO-1: Nesting Birds Avoidance. Should construction activities take place between February 1 and August 31, a CPUC-approved qualified biologist shall conduct a preconstruction survey to identify active nests with the potential to be disturbed by construction within seven days of the onset of construction in areas within 200 feet of potential nesting bird habitat. Should active nests be detected within 200 feet of a construction area, the biologist will establish a buffer around the nest large enough to ensure that construction will not disturb the nesting pair. The buffer limits shall be identified where they meet the construction area using flagging or signage. If construction must take place within the buffer (e.g., the nest cannot be bored underneath and avoided), the biologist shall monitor the nesting pair for signs of disturbance for as long as construction activities remain within buffer limits. If the nesting pair shows signs of disturbance, the biologist will halt construction activities within the buffer until the pair exhibits normal behavior. If, in the biologist's best judgement, the presence of construction may threaten nest success, construction activities will be prohibited within the buffer until the nest is no longer active. Should construction activities in a given area lapse for more than seven days, the biologist shall re-survey that area. Results of surveys shall be submitted to the CPUC within one week of completion.	CPUC verifies that any construction activities occurring between February 1 and August 31 are preceded by a preconstruction survey to identify active nests with the potential to be disturbed by construction. If an active nest is discovered, the biologist will implement appropriate measures to prevent disturbance. The survey results shall be submitted to the CPUC.	Preconstruction surveys for active bird nests are conducted within 7 days of the start of construction, and appropriate measures are implemented to prevent disturbance to any nests within or near the construction area.	<p>Prior to construction – conduct surveys to identify active nests with the potential to be disturbed by construction, within 7 days of the start of construction</p> <p>During construction – If an active nest is found with the potential to be disturbed by construction activities, the approved biologist implements appropriate measures to reduce disturbance, and monitors the nest</p>	Entire project area	TDS, CPUC
Cultural and Paleontological Resources					
APM CR-1: Happy Valley Ditch will be avoided via subsurface boring.	CPUC verifies that the Happy Valley Ditch is avoided with subsurface boring techniques.	Happy Valley Ditch is avoided.	During construction	All project areas which intersect with the Happy Valley Ditch.	TDS, CPUC
APM CR-2: Cloverdale Cemetery and the Igo Inn will be avoided by rerouting the fiber-optic lines to the opposite side of the road.	CPUC verifies that fiber-optic lines are re-routed to the opposite side of the street when passing Cloverdale Cemetery and Igo Inn.	Fiber-optic lines are installed across the street from Cloverdale Cemetery and Igo Inn.	During construction	All project areas in the vicinity of the Cloverdale Cemetery and Igo Inn	TDS, CPUC
APM CR-3: In the event that undiscovered historical or archaeological resources are encountered by construction personnel, all ground-disturbing activities within 30.5 m (100.0 feet) of the find in non-urban areas and 15.2 m (50.0 feet) in urban areas will be temporarily halted or diverted and a qualified archaeologist will be contacted to assess the discovery.	If an undiscovered historical or archeological resources are encountered, CPUC verifies that work has been halted and a qualified archaeologist is contacted to assess the discovery.	Work is halted if an unanticipated historical or archaeological resource is discovered and qualified archaeologist is contacted.	During construction	Entire project area	TDS, CPUC
APM CR-4: If human remains are discovered or recognized in any location, construction personnel will suspend further excavation or disturbance of the site and any nearby areas reasonably suspected to overlie adjacent human remains until the County coroner has been informed and has determined that no investigation of the cause of death is required.	CPUC verifies construction is halted if human remains are discovered and the County coroner is contacted.	Work is halted if human remains are discovered and County coroner is contacted.	During construction	Entire project area	TDS, CPUC

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APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
APM CR-5: In the event that fossil remains are encountered by construction personnel, qualified paleontological specialists will be contacted. Construction within 30.5 m (100.0 feet) of the find in non-urban areas and 15.2 m (50.0 feet) in urban areas will be temporarily halted or diverted until a qualified vertebrate paleontologist examines the discovery.	CPUC verifies that TDS implements protocols for unanticipated paleontological resource discovery, including halting work in the event on an unanticipated discovery.	Work is halted if unanticipated fossil remains are discovered and the proper protocols implemented.	During construction	Entire project area	TDS, CPUC
MM CUL-1: Worker Education Program. TDS shall design and implement a Worker Education Program that requires training for all project personnel, including construction supervisors and field personnel, who may encounter and/or alter previously identified, and as yet unidentified, archaeological and/or architectural resources, including any that may be determined historical resources or unique archaeological resources. All construction workers shall receive this Worker Education Program training before engaging in field operations. The Worker Education Program shall include training that covers, at a minimum, the following topics: <ul style="list-style-type: none">• A review of the prehistory, Native American ethnography/ethnohistory, and history of the proposed project area;• A review of the types of prehistoric, ethnographic/ethnohistoric, and historic archaeological and architectural resources, including artifacts, features, and/or human remains, that could be identified in the proposed project area. These may include, but are not limited to, those that could be associated with historic archaeological site CA-SHA-3373H (Landfill Mining Complex), the former community of Piety Hill, historic archaeological site CA-SHA-3382H (Happy Valley Ditch), the historic Igo Inn, or the historic Cloverdale Cemetery (also known as Oak Cemetery or Happy Valley Cemetery), which is still in use today.• A review of applicable local, state, and federal ordinances, laws, and regulations pertaining to archaeological resources, architectural or other built resources (including prehistoric and ethnographic/ethnohistoric Native American and historic [Euro-American] archaeological and architectural or other built resources), human remains, tribal cultural resources, cultural resources management, and historic preservation;• A discussion of procedures to be followed in the event that unanticipated cultural resources or human remains are discovered during implementation of the proposed project;• A discussion of disciplinary and other actions that could be taken against persons violating historic preservation laws and TDS policies; and• A statement by the construction company or applicable employer agreeing to abide by the Worker Education Program, TDS policies and procedures, and other applicable local, state, and federal ordinances, laws, and regulations.	CPUC verifies that TDS designs and provides a Worker Education Program that provides a comprehensive review of the cultural history of the proposed project area. CPUC approves the program and verifies that new personnel are trained by reviewing training records.	Worker Education Program is approved by the CPUC, and all workers involved in field operations attend the Worker Education Program. CPUC receives and reviews training records to ensure that all workers have received training through the Worker Education Program.	Prior to Construction – CPUC approval, and Worker Education Program screening before start of construction During Construction – TDS and CPUC approved-archaeologist will continue to enforce policies highlighted in the Worker Education Program	Entire project area	TDS, CPUC

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APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
<p>A copy of the materials included as part of the worker education program will be provided to Native American tribes participating in the AB 52 consultation with the CPUC, if requested.</p> <p>This mitigation measure shall be coordinated with MM Geology and Soils (GEO)-1.</p>					
<p>MM CUL-2: Cultural Resources Monitoring. For the purpose of this mitigation measure, “cultural resources” refers to archaeological resources (prehistoric and historic, known or previously unidentified); historic architectural resources (structures, buildings, and objects); and resources associated with California Native American tribes (sub-surface or aboveground). Cultural resources is a general term and does not account for significance (i.e., a historical resource, unique archaeological resource, or tribal cultural resource). TDS shall ensure that a CPUC-approved archaeologist that meets the Secretary of Interior’s Professional Qualifications Standards for archaeology and has specific experience in the identification of human remains conducts monitoring with regard to cultural resources during construction of the proposed project. The qualified archaeologist shall be approved prior to the start of construction by the CPUC Project Manager (PM).</p> <p>The CPUC-approved archaeologist shall prepare a Monitoring and Treatment Plan for Cultural Resources. Prior to commencement of construction, TDS shall submit the Monitoring and Treatment Plan to the CPUC for review and approval. This plan will include a description of when the Wintu will be notified and when they will conduct monitoring of the construction activities (see MM TCR-2). The CPUC PM will approve or request changes to the Monitoring and Treatment Plan for Cultural Resources within seven days of submittal by TDS. Once the CPUC PM approves the Monitoring and Treatment Plan for Cultural Resources, TDS shall ensure that the CPUC-approved archaeologist implements the approved plan. A courtesy copy will be provided to the Wintu Tribe.</p> <p>The CPUC-approved archaeologist shall monitor the effects of all construction-related work conducted within locations with the potential to contain previously unidentified cultural resources and within 200 feet of the known archaeological resources according to the Monitoring and Treatment Plan for Cultural Resources.</p> <p>TDS, in consultation with the CPUC-approved archaeologist, shall implement the following procedures as part of the monitoring for cultural resources:</p> <ul style="list-style-type: none">• A CPUC-approved archaeologist shall conduct monitoring during construction in locations within the API with the potential to contain previously unidentified cultural resources, as identified in the Monitoring and Treatment Plan.<ul style="list-style-type: none">- These locations shall include areas within 200 feet of known archaeological resources, consisting of sites CA-SHA-3373H and CA-SHA-3382H; within 200 feet of known historic architectural resources, consisting of the	<p>The CPUC-approved archaeologist verifies that TDS implements all described monitoring for cultural resources procedures during construction of the proposed project, and stops work if an unanticipated cultural resource is discovered during construction. CPUC verifies that TDS erects protective barriers with appropriate signage around any environmentally sensitive areas. The CPUC receives, reviews, and either approves or requests changes to the Monitoring and Treatment Plan for Cultural Resources produced by TDS, and the CPUC-approved archaeologist documents the results of monitoring.</p>	<p>The CPUC-approved archaeologist is present during construction in locations within the project area with potential to contain previously unidentified cultural resources and within 61 m (200 feet) of known archaeological resources, and implements the procedures described in MM CUL-3 if an unanticipated cultural resource is discovered during construction.</p>	<p>Prior to construction – TDS submits the resume of a qualified archaeologist to be reviewed and approved by the CPUC</p> <p>During construction – CPUC-approved archaeologist conducts monitoring in accordance with described protocols</p> <p>Post-construction – TDS and the CPUC-approved archaeologist prepare and submit a report documenting the results of cultural resources monitoring, for review by the CPUC</p>	<p>Entire project area</p>	<p>TDS, CPUC</p>

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APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
<p>Igo Inn and the Cloverdale Cemetery; and within 200 feet of the Piety Hill historical marker (State of California 2017g, 2017h; Historical Marker Database 2017).</p> <ul style="list-style-type: none">TDS shall erect protective barriers with signage identifying any exclusion area due to the presence of known cultural resources (if applicable) as an “environmentally sensitive area.” <p>The CPUC-approved archaeologist shall have the authority to implement the procedures in MM CUL-3 if an unanticipated cultural resource is discovered at any time and in any location during construction of the proposed project, including in the vicinity of any known archaeological resources, known historic architectural resources, and other resources.</p> <p>At the conclusion of monitoring for cultural resources, TDS shall submit a Monitoring Report documenting the results of the monitoring activities to the CPUC for review and approval. The report shall be prepared by the CPUC-approved archaeologist. The CPUC PM will approve or request changes to the report within seven days of submittal by TDS.</p>					
<p>MM CUL-3: Treatment for Unanticipated Cultural Resources Discoveries. For the purpose of this mitigation measure, “cultural resources” has the same definition as that included in MM CUL-2. TDS shall immediately halt and exclude construction work within 100 feet of the discovery of an unanticipated cultural resource, and the CPUC-approved archaeologist shall inspect the unanticipated resource. At the request of the CPUC-approved archaeologist, TDS shall install protective barriers with signage identifying the exclusion area as an “environmentally sensitive area.”</p> <p>Per the CPUC-approved archaeologist’s discretion and knowledge of potential resources types, if the resource has the potential to be important to a Native American tribe, MM TCR-2 will be followed.</p> <p>Avoidance: If the CPUC-approved archaeologist determines that the resource can be avoided, and no impacts would occur, TDS shall notify the CPUC of the unanticipated resource within 24 hours of its discovery and confirm that it can be avoided. As part of the notification, the resource will be described with sufficient detail to allow the CPUC an understanding of how the resource will be avoided and how no impacts would occur. TDS may proceed with construction work in the area of discovery.</p> <p>TDS shall ensure that the CPUC-approved archaeologist records the unanticipated cultural resource on the appropriate California Department of Parks and Recreation (DPR) 523 forms. TDS shall submit the completed DPR 523 forms to the CPUC for review and approval within 48 hours of the find. The CPUC PM will approve or request changes to the DPR 523 forms within seven days of submittal by TDS. Once approved, TDS shall file the DPR 523 forms with the NEIC and shall provide a copy of the DPR 523 forms to the CPUC for its records.</p>	<p>The CPUC-approved archaeologist halts work, excludes and inspects unanticipated cultural resources discoveries, and guides TDS through CPUC- and agency-recommended protocols if an unanticipated resource is found.</p> <p>The CPUC-approved archaeologist verifies that TDS notifies the appropriate Native American tribe per MM TCR-2.</p> <p>The CPUC-approved archaeologist verifies that TDS follows appropriate procedures for the avoidance of cultural resources, evaluation of them, evaluation plan implementation, and data recovery plan implementation (if needed).</p>	<p>The CPUC-approved archaeologist immediately halts work if an unanticipated cultural resource is discovered during construction, and directs TDS through the appropriate agency/tribal contact, paperwork, and plan submittal procedures and requirements. CPUC receives and approves all required Plans, Memos, and Reports, dependent on the nature of the unanticipated discovery.</p>	<p>During construction – Under direction of the CPUC-approved archaeologist, TDS halts and excludes work upon discovery of unanticipated cultural resources discoveries, and follows monitoring and reporting protocols under the direction of the CPUC-approved archaeologist and in coordination with the CPUC, dependent on the nature of the discovery.</p> <p>Post-construction – As needed based on the nature of the discovery, upon completion of field work within the sensitive area, TDS and the CPUC-approved archaeologist prepare the appropriate documentation for review and filing with the NEIC.</p>	Entire project area	TDS, CPUC, NEIC (for receipt of documentation)

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APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
<p>Evaluation: If TDS determines that it cannot avoid the unanticipated resource, the CPUC-approved archaeologist shall evaluate the resource to determine if there is a potential for it to be a historical resource (CEQA Guidelines section 15064.5(a)) or a unique archaeological resource (PRC 21083.2(g)).</p> <p>The following procedures will be implemented, if the resource cannot be avoided:</p> <ul style="list-style-type: none">At the discretion of the CPUC-approved archaeologist, if the resource is not potentially a historical or unique archaeological resource, TDS may proceed with construction upon notification to the CPUC within 24 hours via email of the find and proper recordation on the appropriate DPR 523 forms. TDS may proceed with construction work in the area of discovery. <p>TDS shall submit the DPR 523 forms to the CPUC for review and approval within 48 hours of the find. The CPUC PM will approve or request changes to the DPR 523 forms within seven days of submittal by TDS. Once approved, TDS shall file the completed DPR 523 forms with the NEIC and shall provide a copy of the DPR 523 forms to the CPUC for its records.</p> <ul style="list-style-type: none">If the CPUC-approved archaeologist determines that the resource is potentially a historical or unique archaeological resource, the CPUC-approved archaeologist shall prepare an Evaluation Plan that details the procedures to be used to determine whether the resource is a historical or unique archaeological resource. The CPUC PM will approve or request changes to the Evaluation Plan within three days of submittal by TDS.Once the CPUC PM has approved the Evaluation Plan, TDS shall ensure that the CPUC-approved archaeologist implements the approved Evaluation Plan. <p>Evaluation Plan Implementation: When fieldwork implemented as part of the approved Evaluation Plan is completed, the CPUC-approved archaeologist shall prepare an Evaluation Memo that describes the results of the evaluation. TDS shall submit the Evaluation Memo to the CPUC for review and approval. The CPUC PM will approve or request changes to the Evaluation Memo within seven days of submittal by TDS.</p> <p>After implementation of the Evaluation Plan, TDS may proceed with work in the area of the discovery, if the following occurs:</p> <ul style="list-style-type: none">The CPUC-approved archaeologist determines that the unanticipated resource is not a historical or unique archaeological resource; andThe CPUC PM concurs with that recommendation. <p>Data Recovery Plan: If, after implementation of the Evaluation Plan, the CPUC-approved archaeologist recommends that the</p>					

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APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
<p>unanticipated find is a historical or unique archaeological resource, TDS shall ensure that the CPUC-approved archaeologist prepares a Data Recovery Plan that would reduce impacts on the potential historical or unique archaeological resource to less than significant.</p> <p>TDS shall ensure that the Data Recovery Plan is prepared by the CPUC-approved archaeologist in accordance with CEQA Guidelines section 15126.4(b)(3)(C) and PRC section 21083.2 and describes methods that will yield relevant information. TDS shall submit the Data Recovery Plan to the CPUC for review and approval. The CPUC PM will approve or request changes to the Data Recovery Plan within seven days of submittal by TDS. Once the CPUC PM approves the Data Recovery Plan, TDS shall ensure that the CPUC-approved archaeologist implements the approved plan.</p> <p>When fieldwork implemented as part of the approved Data Recovery Plan is completed, the CPUC-approved archaeologist shall prepare a Data Recovery Field Memo that briefly describes the results of the data and materials recovery. TDS shall submit the Data Recovery Field Memo to the CPUC for review and approval. The CPUC PM will approve or request changes to the Data Recovery Field Memo within seven days of submittal by TDS. Once the CPUC PM has approved the Data Recovery Field Memo, TDS may proceed with construction work in the area of the discovery.</p> <p>TDS shall ensure that the CPUC-approved archaeologist prepares a more detailed Data Recovery Report within 90 days of the CPUC's approval of the Data Recovery Field Memo. TDS shall also ensure that the Data Recovery Report includes a thorough discussion of the data recovery efforts, presents the conclusions drawn from the data recovery work, and indicates where materials associated with the data recovery will be curated; it shall also contain the appropriate completed California DPR 523 forms. TDS shall submit the Data Recovery Report to the CPUC for review and approval. Once the CPUC PM approves the Data Recovery Report, TDS shall file the Data Recovery Report and the appropriate completed California DPR 523 forms with the NEIC.</p>					
<p>MM CUL-4: Conduct Class III cultural resources surveys for unsurveyed work areas. Prior to construction, TDS shall compare the limits of the proposed areas of disturbance (i.e., where surface disturbance and sub-surface activities will occur) to the portion of the proposed project area for which a Class III Cultural Resources Survey has been prepared (Howell and Copperstone 2017). TDS then shall verify that all proposed areas of disturbance for the proposed project have been surveyed at the Class III Cultural Resources Survey level. TDS shall provide this verification, consisting of a written statement and accompanying project maps, to the CPUC for review and approval. Notification also will be sent as a courtesy to the Wintu.</p> <p>If the CPUC PM concurs that the 2014 Class III Cultural Resources Survey for the proposed project (Howell and Copperstone 2017)</p>	<p>TDS compares the limits of the areas of disturbance to the portion of the proposed project area for which a Class III Cultural Resources Survey has been prepared (Howell and Copperstone 2017), and provides written verification of this to the CPUC for review or approval. If TDS determines that the 2014 survey did not include all areas of the construction workspace, TDS notifies CPUC of this determination and verifies that a CPUC-approved archaeologist conducts a supplemental Class III Cultural Resources Survey of the previously unsurveyed areas, the results of which are provided to the CPUC in writing for verification and approval.</p>	<p>TDS determines whether or not the limits of all construction workspaces were surveyed as part of the 2014 Class III Cultural Resources Survey. If any construction limits were not fully surveyed in 2014, the CPUC-approved archaeologist conducts a supplemental Class III Cultural Resources Survey to be provided to the CPUC in writing for review and approval.</p>	<p>Prior to construction</p>	<p>Entire project area</p>	<p>TDS, CPUC</p>

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APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
<p>sufficiently covered the proposed areas of disturbance, TDS may commence construction work as follows:</p> <ul style="list-style-type: none">If no known resources are located in the areas of disturbance based on the 2014 Class III Cultural Resources Survey, construction-related work for the proposed project can proceed.If known resources or areas of potential archaeological sensitivity are located in the areas of disturbance based on the Class III Cultural Resources Survey, they must be monitored pursuant to MM CUL-2.Any unanticipated cultural resources that are discovered during construction work activities shall be subject to MM CUL-3. <p>If the 2014 Class III Cultural Resources Survey for the proposed project does not sufficiently cover the proposed areas of disturbance, TDS shall notify the CPUC of this determination. TDS shall ensure that a CPUC-approved archaeologist conducts a supplemental Class III Cultural Resources Survey of the unsurveyed areas, and TDS shall provide the report documenting the results of the supplemental Class III Cultural Resources Survey to the CPUC for review and approval. Any newly identified resources will be treated similarly to an unanticipated discovery. Those that are not historical resources or unique archaeological resources will be subject to monitoring, as noted in MM CUL-2; for those that may be historical resources or unique archaeological resources, the procedures identified in MM CUL-3 shall be followed. TDS shall not commence construction work until the CPUC PM reviews and approves the results, conclusions, and recommendations of the supplemental Class III Cultural Resources Survey. Copies of the documentation for these activities will be provided to the Wintu.</p>					
<p>MM CUL-5: Treatment of Human Remains. In the event of the discovery or recognition of human remains during construction, including, but not limited to, in the vicinity of the Cloverdale Cemetery, the following steps shall be taken:</p> <ul style="list-style-type: none">TDS shall ensure that there is no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains while TDS, in consultation with the CPUC PM and the Wintu, contacts the Shasta County Coroner, and the coroner works to determine if the human remains are modern, historic, prehistoric, and/or Native American and to determine whether an investigation of the cause of death is required.Further, pursuant to California PRC Section 5097.98(b), TDS shall ensure that the area containing the discovered or recognized human remains is left in place and free from disturbance until the landowner or the person responsible for the excavation work makes a final decision as to the treatment and disposition of the human remains.	<p>TDS verifies that there is no further excavation or disturbance of the site or any nearby area suspected to overlie adjacent human remains, and, in consultation with CPUC, contacts the Shasta County Coroner, who shall determine the likely origin of the remains. If determined to be Native American, the coroner contacts the NAHC within 24 hours. The NAHC identifies and contacts the "most likely descendent" of the remains, who may make recommendations to the landowner or the person responsible for the excavation work for means of treating or disposing of the human remains. TDS also verifies that the area which contains the human remains not be disturbed until the landowner or the person responsible for the excavation work makes a final decision as to the treatment and disposition of the human remains.</p>	<p>Construction-related activities and excavation are halted in the event of discovery or recognition of human remains anywhere in the project site. All proper agencies are contacted (CPUC, Shasta County Coroner, NAHC, and the most likely descended) as needed. Excavation does not resume until the person responsible for the excavation work makes a final decision as to the treatment and disposition of the human remains.</p>	<p>During construction</p>	<p>Entire project area</p>	<p>TDS, CPUC, Shasta County Coroner, NAHC, Most Likely Descendent</p>

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APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
<ul style="list-style-type: none">For this proposed project, the CPUC considers “the site or any nearby area” to be the 100-foot exclusion area developed for the Cloverdale Cemetery and the 200-foot monitoring area for the Cloverdale Cemetery, within which cultural monitoring of the cemetery is being conducted pursuant to MM CUL-2/3.If the Shasta County Coroner determines the remains to be Native American, then the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons from which the NAHC believes the deceased to be the “most likely descendent.”The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work by which the human remains were discovered or recognized regarding means of treating or disposing of, with appropriate dignity, the human remains and associated grave goods as provided in California PRC Section 5097.98. <p>TDS shall notify the CPUC within 24 hours of receiving notification of the landowner’s, or the person responsible for the excavation work’s, decision for the final treatment or disposition of the human remains and associated grave goods.</p>					
Geology and Soils					
APM GEO-1: TDS will require the contractor to manage construction-induced sediment and excavated spoils in accordance with the requirements of the State Water Resources Control Board (SWRCB) and U.S. Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) permits for stormwater runoff associated with construction activities.	TDS verifies that all contractors manage construction-induced sediment and excavated spoils in accordance with SWRCB and EPA NPDES permit requirements.	NPDES General Permit is obtained and permit conditions are followed.	Prior to construction – obtain NPDES General Permit During construction – implement BMPs	Entire project area	TDS, CPUC, SWRCB, EPA
APM GEO-2: Prior to the onset of construction, TDS or its authorized contractor will complete a SWPPP that outlines BMPs to control discharges from construction areas.	TDS or its contractor prepares and submits SWPPP to CPUC.	Prepare and implement SWPPP.	Prior to construction – Prepare SWPPP During construction – implement BMPs	Entire project area	TDS, CPUC
APM GEO-3: No construction-related materials, wastes, spills, or residues will be discharged from the project.	CPUC verifies that no construction-related materials, wastes, spills, or residues will be discharged from the project.	No construction-related materials, wastes, spills, or residues are discharged from the project.	During construction	Entire project area	TDS, CPUC
APM GEO-4: The staging of construction materials, equipment, and excavation spoils will be performed outside of drainages.	CPUC verifies that no construction materials, equipment and excavation spoils are staged within drainages.	No construction materials, equipment, or excavation spoils are staged in any drainage.	During construction	Entire project area	TDS, CPUC
APM GEO-5: Excavated or disturbed soil will be kept within a controlled area surrounded by a perimeter barrier that may include silt fence, hay bales, straw wattles, or a similarly effective erosion control technique that prevents the transport of sediment from a given stockpile.	CPUC verifies that all excavated or disturbed soil will be kept within a controlled area surrounded by a perimeter barrier that prevents transport of sediment from a given stockpile.	All excavated or disturbed soils are kept in controlled area by a perimeter barrier, and no sediment is transported from a given stockpile.	During construction	Entire project area	TDS, CPUC
APM GEO-6: All stockpiled material will be covered or contained in such a way that off-site runoff is eliminated.	CPUC verifies that all stockpiled materials are covered or contained in such a way that there is no off-site runoff.	All stockpiled material is covered in a way that eliminates off-site runoff.	During construction	All project areas in which material is being stockpiled	TDS, CPUC
APM GEO-7: Upon completion of construction activities, excavated soil will be replaced and graded so that post-construction topography and drainage matches pre-construction conditions.	CPUC verifies that all excavated soil will be replaced and graded so post-construction topography and drainage matches pre-construction conditions.	All excavated soil is replaced and graded so that post-construction topography and drainage matches pre-construction conditions.	Post construction	Entire project area	TDS, CPUC

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APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
APM GEO-8: Surplus soil will be transported from the site and disposed of appropriately.	CPUC verifies that all surplus soil is transported from the site and disposed of properly.	All surplus soil is transported from the project area and disposed of appropriately.		Entire project area	TDS, CPUC
MM GEO-1: Worker Education Program. TDS shall design and implement a Worker Education Program that requires training for all project personnel, including construction supervisors and field personnel, who may encounter and/or alter previously identified and as yet unidentified paleontological resources, including any that may be determined to be a unique paleontological resource or site or unique geologic feature. All construction workers shall receive this Worker Education Program training before engaging in field operations. The Worker Education Program shall include training that covers, at a minimum, the following topics: <ul style="list-style-type: none">• A review of the types of paleontological resources that could be identified in the proposed project area;• A review of applicable local and state ordinances, laws, and regulations pertaining to paleontological resources; and• A discussion of procedures to be followed in the event that paleontological resources are discovered during implementation of the proposed project. This program shall be coordinated with the cultural resources training provided as part of Section 5.5 Cultural Resources, MM CUL-1 .	CPUC verifies that TDS designs and provides a Worker Education Program that provides a comprehensive review of the paleontological resources of the proposed project area. CPUC approves the program and verifies that new personnel are trained by reviewing training records.	Worker Education Program is approved by the CPUC, and all workers involved in field operations attend the Worker Education Program. CPUC receives and reviews training records to ensure that all workers have received training through the Worker Education Program.	Prior to Construction – CPUC approval, and Worker Education Program screening before start of construction During Construction – TDS and CPUC-approved paleontologist will continue to enforce policies highlighted in the Worker Education Program	Entire project area	TDS, CPUC
MM GEO-2: Paleontological Monitoring. TDS shall ensure that a CPUC-approved paleontologist conducts paleontological monitoring for the proposed project. The qualified paleontologist shall be approved prior to the start of construction by the CPUC. The CPUC-approved paleontologist shall prepare a Paleontological Monitoring Plan. Prior to commencement of construction, TDS shall submit the Paleontological Monitoring Plan to the CPUC for review and approval. The CPUC will approve or request changes to the Paleontological Monitoring Plan within seven days of submittal by TDS. Once the CPUC approves the Paleontological Monitoring Plan, TDS shall ensure that the CPUC-approved paleontologist implements the approved plan. The Paleontological Monitoring Plan shall include the significance criteria for the fossils likely to be yielded by the Red Band and Tehama Formations, subject to CPUC-approval and outline how such criteria shall be applied to determine whether or not the paleontological resource is significant. In the absence of other agreed-upon criteria, a paleontological resource shall be considered unique if it meets the definition of a significant paleontological resource under the 2010 Society of Vertebrate Paleontology <i>Standard Procedures for the Assessment of Adverse Impacts to Paleontological Resources</i> definition: Significant paleontological resources are fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate,	TDS verifies that a qualified CPUC-approved paleontologist conducts paleontological monitoring for the proposed project in accordance with a Paleontological Monitoring Plan, prepared by the monitor and approved by the CPUC. The paleontologist monitors construction-related activities in areas with the potential to contain paleontological resources, and stops or excludes work from any sensitive areas, implementing the procedures in MM GEO-3 if appropriate and necessary. At the conclusion of paleontological monitoring, the paleontologist prepares a monitoring report and verifies that TDS submits the report to the CPUC for review, approval, or request for changes.	A qualified paleontologist is approved by the CPUC to conduct monitoring activities, and stops or excludes work if a paleontological resource is discovered or has the potential to occur at any time and in any location in the proposed project area. A paleontological monitoring report is prepared and submitted to the CPUC for review, approval, or request for changes at the conclusion of paleontological monitoring.	Prior to construction – CPUC approves a paleontological monitor During construction – the CPUC-approved paleontological monitor follows all monitoring procedures described in the Paleontological Monitoring Plan Post construction – TDS submits a paleontological monitoring report for review by the CPUC. Within 7 days of submittal by TDS, the CPUC either approves or requests changes to the report.	Entire project area	TDS, CPUC

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
<p>plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years). (Society for Vertebrate Paleontology 2010)</p> <p>The CPUC-approved paleontologist shall monitor the effects of all construction-related work conducted in these areas according to a Paleontological Monitoring Plan that is prepared for the proposed project by the CPUC-approved paleontologist and approved by the CPUC prior to the start of construction.</p> <p>TDS, in consultation with the CPUC-approved paleontologist, shall implement the following procedures as part of paleontological monitoring:</p> <ul style="list-style-type: none">• A CPUC-approved paleontologist conducts paleontological monitoring during construction in the locations with the potential to contain paleontological resources.• TDS, in consultation with the CPUC-approved paleontologist, shall identify the locations within the proposed project area with the potential to contain paleontological resources.• TDS shall erect protective barriers with signage identifying each exclusion area as an “environmentally sensitive area.” <p>The CPUC-approved paleontologist shall have the authority to implement the procedures set forth in MM GEO-2 if a paleontological resource is discovered at any time and in any location during construction of the proposed project, including within, and outside of, the locations that have been identified as having potential to contain paleontological resources.</p> <p>At the conclusion of paleontological monitoring, TDS shall submit a report documenting the results of paleontological monitoring to the CPUC for review and approval. The monitoring report shall be prepared by the CPUC-approved paleontologist. The CPUC will approve or request changes to this monitoring report within seven days of submittal by TDS.</p>					

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
<p>MM GEO-3: Treatment for Paleontological Resources. TDS shall immediately halt and exclude construction work within 100 feet of the discovery of a paleontological resource, and the CPUC-approved paleontologist shall inspect the paleontological resource. At the request of the CPUC-approved paleontologist, TDS shall install protective barriers with signage identifying the exclusion area as an “environmentally sensitive area.” TDS shall notify the CPUC of the paleontological resource discovery within 24 hours of its discovery.</p> <p>The CPUC-approved paleontologist shall examine the find and evaluate it to determine whether it is likely to be considered unique under Part V of CEQA Guidelines Appendix G based on the criteria set forth in the Paleontological Monitoring Plan.</p> <p>The CPUC-approved paleontologist shall prepare a report documenting the results of the evaluation of each discovered paleontological resource, or group of paleontological resources if located within the same exclusion area. TDS shall submit an evaluation report(s) to the CPUC for review and approval. The CPUC will approve or request changes to the evaluation report(s) within seven days of submittal by TDS. Once the CPUC has approved the evaluation report(s), the CPUC shall determine whether or not the paleontological resource is unique.</p> <p>If the CPUC, in consultation with the CPUC-approved paleontologist, determines that the paleontological resource is not unique, TDS may commence work in the area upon approval by the CPUC. If the CPUC, in consultation with the CPUC-approved paleontologist, determines that the resource is unique, preservation in place, i.e., avoidance, is the preferred method of mitigation for impacts to unique paleontological resources. If TDS, in consultation with the CPUC-approved paleontologist, determines that the unique paleontological resource can be avoided and thus not impacted, TDS shall ensure that the CPUC-approved paleontologist documents the resource(s) in accordance with professional standards, such as those in the 2010 Society of Vertebrate Paleontology <i>Standard Procedures for the Assessment of Adverse Impacts to Paleontological Resources</i>. TDS shall continue to flag the area for avoidance during construction, and no further treatment shall be required as long as the unique paleontological resource is avoided during construction of the proposed project.</p> <p>However, if the resource is found to be unique and TDS, in consultation with the CPUC-approved paleontologist, determines that it cannot feasibly be avoided, TDS shall consult with the CPUC to determine appropriate mitigation measures for the treatment of impacts on a unique paleontological resource as follows:</p> <ul style="list-style-type: none">• Mitigation methods may include ensuring that fossils are recovered, prepared, identified, catalogued, and analyzed according to current professional standards under the direction of the CPUC-approved paleontologist.	<p>If a paleontological resource is discovered, the CPUC-approved paleontologist halts and excludes work within 100 feet of the resource, inspects the resource, and verifies that TDS installs protective barriers and signage identifying the exclusion area. The CPUC-approved paleontologist verifies that TDS notifies the CPUC of the discovery within 24 hours.</p> <p>If the find is determined to be unique, the CPUC-approved paleontologist prepares a resources evaluation report, and verifies that TDS submits the report to the CPUC for review, approval, or request for changes.</p> <p>If it is determined that the resource is unique and can be avoided, TDS verifies that the CPUC-approved paleontologist documents the resource in accordance with professional standards, and the paleontologist verifies that TDS maintains the exclusion area.</p> <p>If it is determined that the paleontological resource is unique and cannot be avoided, the CPUC consults with TDS and the CPUC-approved paleontologist to establish appropriate mitigation measures for the treatment of the resource. TDS verifies that the CPUC-approved paleontologist implements the Paleontological Monitoring Plan and prepares a Paleontological Resources Treatment Report within 90 days of CPUC approval. Upon CPUC approval of the Paleontological Resources Treatment Report, TDS verifies that all resources are curated, and provides a copy of the approved report to CPUC for its records.</p>	<p>Work is immediately halted and excluded in the event of the discovery of a paleontological resource. The paleontologist and TDS prepare and submit an evaluation report, a Paleontological Treatment Plan, and a Paleontological Resources Treatment Report, for review and approval by the CPUC. Any paleontological discoveries determined to be unique are treated in accordance to their associated plan(s), and are appropriately curated.</p>	<p>During construction</p>	<p>Entire project area</p>	<p>TDS, CPUC</p>

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
<ul style="list-style-type: none">Methods of recovery, testing, and evaluation shall adhere to current professional standards for recovery, preparation, identification, analysis, and curation, such as the 2010 Society of Vertebrate Paleontology <i>Standard Procedures for the Assessment of Adverse Impacts to Paleontological Resources</i>.The CPUC-approved paleontologist shall present the mitigation measures that are agreed upon by the CPUC and TDS, in consultation with the CPUC-approved paleontologist, in a Paleontological Treatment Plan. <p>TDS shall ensure that the CPUC-approved paleontologist implements the approved Paleontological Treatment Plan, and TDS may commence work in the area with the CPUC's approval after the identified paleontological resource(s) have been recovered from the field (if recovery is implemented as part of mitigation) and upon approval by the CPUC.</p> <p>TDS shall ensure that the CPUC-approved paleontologist prepares a report documenting the results of the treatment within 90 days of the CPUC's approval of the Paleontological Treatment Plan. TDS shall ensure that the report presents a thorough discussion of the data recovery efforts, presents the conclusions drawn from the data recovery work, and indicates where the recovered unique paleontological resources will be curated. TDS shall submit the report documenting the treatment to the CPUC for review and approval. Once the CPUC approves this report, TDS shall curate the materials and shall provide a copy of the approved report documenting the treatment to CPUC for its records.</p>					
Hazards and Hazardous Materials					
APM HAZ-1: TDS and/or their contractor will ensure proper labeling, storage, handling, and use of hazardous materials in accordance with BMPs and the Occupational Safety and Health Administration's (OSHA's) Hazardous Waste and Operations and Emergency Response (HAZWOPER) requirements.	CPUC verifies that all hazardous materials are labeled, stored, handled, and used in accordance with project BMPs and OSHA HAZWOPER standards.	All hazardous materials are properly labeled, stored, handled and used according to project BMPs and Occupational Safety and Health Administration's (OSHA's) Hazardous Waste and Operations and Emergency Response (HAZWOPER) requirements.	During construction	Entire project area	TDS, CPUC
APM HAZ-2: TDS and/or their contractor will ensure that employees are properly trained in the use and handling of hazardous materials and that each material is accompanied by a Material Safety Data Sheet (MSDS).	CPUC verifies that TDS and/or contractor has trained employees and each hazardous materials is accompanied by a MSDS.	All personnel receive training prior to starting work on the project.	Prior to construction	Entire project area	TDS, CPUC
APM HAZ-3: Any small quantities of hazardous materials stored temporarily in staging areas will be stored on pallets within fenced and secured areas and protected from exposure to weather. Incompatible materials will be stored separately, as appropriate.	CPUC verifies that any hazardous materials stored temporarily in staging areas are stored on pallets within fenced and secured areas, and protected from weather exposure. CPUC verifies that incompatible materials are stored separately.	All small quantities of hazardous materials are stored on pallets within fenced and secured areas, protected from exposure to weather. All incompatible materials stored separately.	During construction	Entire project area	TDS, CPUC

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
APM HAZ-4: All hazardous waste materials removed during construction will be handled and disposed of by a licensed waste disposal contractor and transported by a licensed hauler to an appropriately licensed and permitted disposal or recycling facility to the extent necessary to ensure the area can be safely traversed.	CPUC verifies that all hazardous waste materials removed during construction are handled and disposed of by a licensed waste disposal contractor and transported by a licensed hauler to an appropriately licensed and permitted disposal or recycling facility to the extent necessary to ensure the area can be safely traversed.	All personnel receive the CPUC-approved training prior to starting work on the project. All personnel can effectively implement the measures. Smoking is prohibited outside of designated area, required fire extinguishers are available, parking and idling does not occur near combustible vegetation as required.	During construction	Entire project area	TDS, CPUC
APM HAZ-5: Spill clean-up kits would be provided and kept on-site during construction, and equipment would remain in good working order to prevent spills. Significant releases or threatened releases of hazardous materials will be reported to the appropriate agencies.	CPUC verifies that spill clean-up kits are available on-site during construction. TDS will report any significant releases or threatened releases of hazardous materials to the appropriate agencies.	Spill clean-up kits are kept on site during construction. Any significant release or threatened release of hazardous materials is reported.	During construction	Entire project area	TDS, CPUC
APM HAZ-6: Workers shall be instructed regarding the danger of wildland fire and the need to carefully park equipment in areas without dry, brushy vegetation. All work vehicles shall be equipped with a working fire extinguisher. All cigarettes and trash shall be disposed of in proper containers and taken off-site at the end of the day.	CPUC verifies that TDS trains all workers on wildland fire danger, and that all work vehicles are equipped with a working fire extinguisher. CPUC verifies that all cigarettes and trash are disposed of in proper containers and taken off-site at the end of each day.	All personnel received training on wildland fire danger. All vehicles are equipped with a working fire extinguisher. All cigarettes and trash are disposed in appropriate containers and are taken off-site at the end of each day.	Prior to construction – train workers on wildfire danger. During construction – equip vehicles with fire extinguisher and follow fire safety protocols.	Entire project area	TDS, CPUC
Noise					
APM NOI-1: All construction equipment operation shall be limited to the hours of 7 a.m. to 7 p.m. Monday through Friday. No construction operations shall occur on weekends or holidays or during nighttime hours.	CPUC verifies that TDS conducts all construction operations occur between 7 a.m. and 7 p.m., Monday through Friday, and that construction does not occur during holidays.	No construction equipment operation occurs before 7 a.m. and after 7 p.m., Monday through Friday, and no construction occurs on weekends, during holidays, or during nighttime hours.	During construction	Entire project area	TDS, CPUC
MM NOI-1: Notify Local Landowners of Construction Activities. The applicant shall provide written notice to residences and landowners located within 50 feet of proposed project alignment at least within five days of commencement of construction activities at the street where works will occur. The notice shall state the date of planned construction activity in proximity to that landowner's property and the range of hours during which maximum noise levels may be anticipated.	CPUC verifies that TDS produces and provides written notice to all residences and landowners within 50 feet of the proposed project alignment within five days of the commencement of construction activities on the street where activities will occur.	All residences and landowners within 50 feet of the proposed project alignment receive written notice within five days of the commencement of construction activities on the street where activities will occur. The written notice contains the planned start date of construction activity, the hours during which maximum construction noise levels are expected to occur, and the proximity of the construction activities to the landowner's property.	Prior to construction – before commencement of any construction activities, landowners in the first area of construction activities shall receive notification During construction – as construction progresses, landowners along other portions of the proposed project alignment shall receive written notification	Entire project area	TDS, CPUC
Traffic and Transportation					
APM TRA-1: TDS and/or their contractors will require the project contractor to obtain all necessary local road encroachment permits prior to construction and will comply with all the applicable conditions of approval.	CPUC verifies that TDS and/or their contractor will obtain all necessary road encroachment permits prior to construction. CPUC verifies that all applicable conditions of approval are complied with during construction.	All necessary encroachment permits are obtained prior to the start of construction, and all conditions in these permits are complied with.	Prior to construction – obtain necessary encroachment permit During construction – comply with permit conditions	Entire project area	TDS, CPUC
APM TRA-2: As deemed necessary by the applicable jurisdiction, the road encroachment permits may require the contractor to prepare a traffic control plan in accordance with professional engineering standards prior to construction.	If required by road encroachment permits, CPUC verifies that the contractor prepare a traffic control plan prior to construction.	If required by encroachment permits, a traffic control plan is prepared prior to construction, in accordance with professional engineering standards.	Prior to construction – prepare Traffic Control Plan if needed During construction – implement traffic control plan	Entire project area	TDS, CPUC
APM TRA-3: TDS and/or their contractors will develop circulation and detour plans to minimize impacts to local street circulation. This will include the use of signing and flagging to guide vehicles through and/or around the construction zone.	CPUC verifies that TDS and/or their contractors develop circulation and detour plans prior to construction, and implement the measures outlined in those plans during construction.	All necessary circulation and detour plans are developed and reviewed prior to construction, and CPUC verifies that the plans are implemented as outlined throughout the construction process.	Prior to construction – prepare circulation and detour plans During construction – implement measures outlined in circulation and detour plans	Entire project area	TDS, CPUC

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
APM TRA-4: TDS and/or their contractors will schedule truck trips outside of peak morning and evening commute hours.	CPUC verifies that TDS and/or their contractors schedule truck trips and movement of construction equipment outside of peak morning and evening commute hours.	All truck trips occur outside of peak morning and evening hours.	During construction	Entire project area	TDS, CPUC
APM TRA-5: TDS and/or their contractors will limit lane closures during peak hours to the extent possible.	If required during construction, lane closers will be limited to off-peak hours to the extent feasible.	Lane closures are limited of off-peak hours when feasible.	During construction	Entire project area	TDS, CPUC
APM TRA-6: TDS and/or their contractors will include detours for bicycles and pedestrians in all areas potentially affected by project construction.	CPUC verifies that TDS and/or their contractors establish safe detours for bicycle and pedestrian paths that will potentially be impacted by project construction.	Bicycle and pedestrian routes that are impacted by project construction are detoured to safe routes.	During construction	Entire project area	TDS, CPUC
APM TRA-7: TDS and/or their contractors will install traffic control devices as specified in the <i>California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones</i> .	CPUC verifies that all traffic control devices installed during construction are consistent with the <i>California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work Zones</i> .	Traffic control devices are installed in accordance with the <i>California Department of Transportation Manual of Traffic Controls for Construction and Maintenance Work</i> .	During construction	Entire project area	TDS, CPUC
APM TRA-8: TDS and/or their contractors will coordinate with local transit agencies for the temporary relocation of routes or bus stops in work zones as necessary.	CPUC verifies that TDS and/or their contractor coordinates with local transit agencies to temporarily relocate transit routes and/or bus stops in work zones.	Traffic routes and bus stops are routed to avoid conflicts with work zones during construction.	During construction	Entire project area	TDS, CPUC
MM TRA-1: Road Repair. The applicant shall repair to pre-project conditions any roads damaged by project vehicle traffic. The applicant shall document roadway conditions with photographs prior to the project along roadways within the project area. The applicant shall take photographs after the project and after any repairs that document restoration of pre-project pavement conditions.	CPUC verifies that TDS repairs to pre-project conditions any roads damaged by project vehicle traffic, and photographs are taken both pre- and post-construction to document roadway and pavement changes resulting from project construction.	Any roads damaged by project vehicle traffic are restored post-construction to the conditions documented prior to project construction, and photographs are taken of roadways and pavement conditions pre- and post-construction effectively document all past and existing conditions.	Prior to construction – document pre-project conditions Post-construction – restore damaged roads and document restoration	Roadways throughout entire project area	TDS, CPUC
MM TRA-2: Emergency Access. The applicant shall notify local emergency service providers (i.e., police departments, ambulance services, and fire departments) of lane closures at least one week prior to the closure. The applicant shall notify the provider of the location, date, time, and duration of the lane closure. The applicant shall make provisions to maintain emergency vehicle access at all times in coordination with local emergency service providers, such as allowing for bypass of slow vehicle traffic during lane closures.	CPUC verifies that TDS and/or their contractor notify all local emergency service providers serving the project area at least 1 week prior to the lane closure. TDS and/or their contractor will establish provisions to maintain emergency vehicle access at all times throughout construction, including lane closures.	Emergency service providers are notified of lane closures at least 1 week prior to the closure, and emergency vehicles have access to roads and emergency routes at all times throughout construction.	Prior to construction – notify local emergency providers of lane closures During construction – continue to notify local emergency services of lane closures at least 1 week prior to each closure, and maintain emergency vehicle access throughout the project.	Entire project area	TDS, CPUC

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
Tribal Cultural Resources					
<p>MM TCR-1: Tribal Monitoring for Cloverdale Cemetery: One Native American monitor from the Wintu Tribe of Northern California (Wintu) shall be retained, at the Tribe's option, to observe ground-disturbing activities and all work within 200 feet of the Cloverdale Cemetery, subject to the conditions outlined in this mitigation measure.</p> <p>Wintu monitoring shall be subject to the following conditions:</p> <ul style="list-style-type: none">• The applicant shall give the Wintu 14 days' advance notice of construction in the vicinity of the Cloverdale Cemetery and shall provide the Wintu with the opportunity to monitor construction activities in the vicinity of the Cloverdale Cemetery as requested in AB 52 consultation with the CPUC. The applicant shall make a good-faith best effort to schedule construction activities in the vicinity of the Cloverdale Cemetery when a Wintu monitor is available.• The Wintu monitor's attendance during construction activities within 200 feet of the Cloverdale Cemetery is ultimately at the discretion of the tribe, and the absence of a Wintu monitor shall not delay construction work if the Wintu has been given 14 days' advance notice. The applicant shall include documentation of its notification of, and communications with, the Wintu regarding the tribe's monitoring in the vicinity of Cloverdale Cemetery as part of the monitoring plan for the proposed project.• The Wintu monitor shall have the ability to temporarily halt work or redirect trenching from the immediate vicinity of a potential unanticipated find or the unanticipated discovery of human remains within 200 feet of the Cloverdale Cemetery. The Wintu monitor shall immediately notify the CPUC-approved archaeological monitor to follow the procedures for the discovery of unanticipated finds (per MM CUL-3) and/or for the unanticipated discovery of human remains per PRC section 5097.98.	<p>CPUC verifies that TDS provides 14 days advance notice of construction in the vicinity of the Cloverdale Cemetery to the Wintu Tribe of Northern California.</p>	<p>Wintu Tribe of Northern California are notified 14 days prior to construction in the vicinity of the Cloverdale Cemetery.</p> <p>TDS shall make a good-faith best effort to schedule construction activities in the vicinity of the Cloverdale Cemetery when a Wintu monitor is available.</p>	<p>Prior to construction – notify the Wintu Tribe of Northern California.</p>	<p>Cloverdale Cemetery</p>	<p>TDS, CPUC</p>
<p>MM TCR-2: Treatment for Unanticipated Tribal Cultural Resources. In the event a resource is discovered that, in the opinion of the CPUC-approved archaeologist, may be considered a tribal cultural resource or a resource of importance to the Wintu Tribe, TDS shall notify the CPUC Project Manager (PM) and Wintu Tribe (Wintu AB 52 or cultural representative) within 24 hours of its discovery. As part of the notification, the resource will be described with sufficient detail to allow the CPUC PM/Wintu AB 52 or cultural representative an understanding of the resource.</p> <p>The CPUC-approved archaeologist, the CPUC PM, and the Wintu AB 52 or cultural representative will assess the potential significance of the find based on the notification information. If the CPUC-approved archaeologist, the CPUC PM, and Wintu AB 52 or cultural representative determine that the resource is not significant, TDS may proceed with construction within 24 hours of receiving notification of this determination.</p>	<p>The CPUC-approved archaeologist halts work, excludes and inspects unanticipated cultural resources discoveries, and guides TDS through CPUC- and agency-recommended protocols if an unanticipated resource is found.</p> <p>The CPUC-approved archaeologist verifies that TDS follows appropriate procedures for the avoidance of tribal cultural resources <u>or a resource of importance to the Wintu tribe</u>, evaluation of them, evaluation plan implementation, and data recovery plan implementation (if needed).</p>	<p>The CPUC-approved archaeologist immediately halts work if an unanticipated tribal cultural resource <u>or a resource of importance to the Wintu Tribe</u> is discovered during construction, and directs TDS through the appropriate agency/tribal contact, paperwork, and plan submittal procedures and requirements. CPUC receives and approves all required Plans, Memos, and Reports, dependent on the nature of the unanticipated discovery.</p>	<p>During construction – Under direction of the CPUC-approved archaeologist, TDS halts and excludes work upon discovery of unanticipated resources discoveries, and follows monitoring and reporting protocols under the direction of the CPUC-approved archaeologist/Wintu monitor and in coordination with the CPUC, dependent on the nature of the discovery.</p> <p>Post-construction – As needed based on the nature of the discovery, upon completion of field work within the sensitive area, TDS and the CPUC-approved archaeologist prepare the appropriate documentation for review</p>	<p>Entire project area</p>	<p>TDS, CPUC, NEIC (for receipt of documentation)</p>

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
<p>If the find is not determined to be significant, TDS shall submit the appropriate California Department of Parks and Recreation (DPR) 523 forms to the CPUC for review and approval within 48 hours of the find. The CPUC PM will approve or request changes to the DPR 523 forms within seven days of submittal by TDS. Once approved, TDS shall file the completed DPR 523 forms with the Northeast Information Center and shall provide a copy of the DPR 523 forms to the CPUC for its records.</p> <p>If the find is potentially significant, the following procedures will be implemented:</p> <ul style="list-style-type: none">• If the resource can be avoided and the CPUC-approved archaeologist, CPUC PM, and Wintu AB 52 or cultural representative concur, TDS may proceed with construction work in the area of discovery.• TDS shall ensure that the CPUC-approved archaeologist records the unanticipated resource on the appropriate DPR 523 forms. TDS shall submit the DPR 523 forms to the CPUC for review and approval within 48 hours of the find. The CPUC PM will approve or request changes to the DPR 523 forms within seven days of submittal by TDS. Once approved, TDS shall file the completed DPR 523 forms with the Northeast Information Center and shall provide a copy of the DPR 523 forms to the CPUC for its records.• If the Wintu request further consultation on a resource, the CPUC-approved archaeologist, CPUC PM, and Wintu AB 52 or cultural representative will consult on the development of the Evaluation Plan and/or the Data Recovery Plan and all subsequent documentation. The review and approval will be sought in the same timeframe for both the CPUC and Wintu AB 52 or cultural representative as that described in MM CUL-3. If the Wintu indicate that consultation with them regarding the Evaluation Plan and/or Data Recovery Plan is not needed, only CPUC review and approval will be required for this plan(s), along with subsequent fieldwork and documentation. <p>Once the CPUC-approved archaeologist, CPUC PM, and Wintu AB 52 or cultural representative approve the Evaluation Plan and/or Data Recovery Plan, TDS shall ensure that the CPUC-approved archaeologist implements the approved plan. If a Wintu monitor is requested as part of the Evaluation and/or Data Recovery Plan, the role of the monitor will be outlined in the Evaluation Plan and/or Data Recovery Plan.</p>			<p>and filing with the NEIC. Where appropriate, assistance may be provided by the Wintu.</p>		

Table 6-1 Draft Mitigation Monitoring and Reporting Plan

APMs and Mitigation Measures	Monitoring/Reporting Action	Effectiveness Criteria	Timing	Location	Responsible Agency
Utilities and System Services					
APM PSU-1: TDS and/or their contractors will recycle solid waste generated during construction, to the extent practicable.	CPUC verifies that TDS and/or their contractor recycles solid waste generated by the project, to the extent practicable.	To the extent practicable, solid waste generated during construction is recycled.	During construction	Entire project area	TDS, CPUC

Key:			
AB	Assembly Bill	MSDS	Material Safety Data Sheet
APM	applicant proposed measure	NAHC	Native American Heritage Commission
AQAP	Air Quality Attainment Plan	NEIC	Northeast Information Center
BMP	best management practices	NPDES	National Pollutant Discharge Elimination System
CPUC	California Public Utilities Commission	OSHA	Occupational Safety and Health Administration
DPR	California Department of Parks and Recreation	PRC	Public Resources Code
EPA	U.S. Environmental Protection Agency	SCAQMD	South Coast Air Management District
HAZWOPER	Hazardous Waste and Operations and Emergency Response	SWPPP	Stormwater Pollution Prevention Plan
km	kilometers	SWRCB	State Water Resources Control Board
m	meters	TDS	TDS Telecom, Inc.
MM	mitigation measure	Wintu	Wintu Tribe of Northern California