Draft
Environmental Impact Report

Nevada County Broadband Program

SCH No.: 2021120435

Prepared for:

NEVADA COUNTY
CALIFORNIA

September 2022

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Prepared for:

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LIST OF ABBREVIATIONS

°F	degrees Fahrenheit
2017 Scoping Plan	*California's 2017 Climate Change Scoping Plan*
AB	Assembly Bill
ADA	Americans with Disabilities Act
ADL	aerially deposited lead
ALUCP	airport land use compatibility plan
AMSL	above mean sea level
BERD	Built Environment Resources Directory
BMP	best management practice
C&D	construction and demolition
CAA	federal Clean Air Act
CAFE	corporate average fuel economy
CAL FIRE	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CARI	California Aquatic Resource Inventory
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CHL	California Historical Landmarks
CHP	California Highway Patrol
CI	carbon intensity

CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNRA	California Natural Resources Agency
CO_2	carbon dioxide
County	Nevada County
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CUPA	Certified Unified Program Agencies
CWA	Clean Water Act
CWPP	community wildfire protection plan
dB	decibels
DOE	Archaeological Determinations of Eligibility
Draft EIR	draft environmental impact report
DSL	digital subscriber line
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
ECA	Essential Connectivity Areas
EIR	environmental impact report
EO	Executive Order
EOP	Emergency Operations Plan
EPA	US Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act of 1986
ESA	federal Endangered Species Act
EV	electric vehicle
FAA	Federal Aviation Administration
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GBV	Ground-Borne Vibration
GHG	greenhouse gas

HCP	habitat conservation plan
Hz	hertz
in/sec	inches per second
IPCC	Intergovernmental Panel on Climate Change
JOA	Joint Operating Agreement
LCFS	Low Carbon Fuel Standard
L_{dn}	Day-Night Level
L_{eq}	Equivalent Continuous Sound Level
L_{max}	Maximum Sound Level
LOS	level of service
LRA	local responsibility area
LUST	leaking underground storage tank
Mbps	megabits per second
MBTA	Migratory Bird Treaty Act
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
mPa	micro-Pascals
MRF	Material Recovery Facility
MRZ	Mineral Resource Zone
$MTCO_2e$	metric tons of carbon dioxide equivalent
MVGB	Martis Valley Groundwater Basin
NAHC	Native American Heritage Commission
NCCP	natural community conservation plan
NCEHD	Nevada County Environmental Health Department
NCLHMP	Nevada County Local Hazard Mitigation Plan
NCTC	Nevada County Transportation Commission
NEHRP	National Earthquake Hazards Reduction Program
NHTSA	National Highway Traffic Safety Administration
NOP	notice of preparation
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places

NSAMQD	Northern Sierra Air Quality Management District
OHP	Office of Historic Preservation
OPR	Governor's Office of Planning and Research
OSHA	federal Occupational Safety and Health Administration
PHI	California Points of Historical Interest
Porter-Cologne Act	Porter-Cologne Water Quality Control Act of 1970
PPV	peak particle velocity
PRC	Public Resources Code
program	Nevada County Broadband Program
RMS	root-mean-square
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
RTPA	Regional Transportation Planning Agency
RWQCB	regional water quality control board
SARA Title III	Superfund Amendments and Reauthorization Act of 1986
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act of 2014
SMAQMD	Sacramento Metropolitan Air Quality Management District
SPCC	Spill Prevention, Control, and Countermeasure
SPL	sound pressure level
SR	State Route
SRA	State Responsibility Area
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TART	Truckee Area Regional Transportation
TCM	transportation control measures
TDM	transportation demand management
TISG	Transportation Impact Study Guide
TMDL	total maximum daily load
TPZ	Timberland Production Zone

USC	US Code
USDOT	US Department of Transportation
USFWS	US Fish and Wildlife Service
UST	underground storage tanks
VdB	vibration decibels
VMT	vehicle miles traveled
WEAP	Worker Environmental Awareness Program
WQO	water quality objectives
ZEV	zero-emission vehicle

EXECUTIVE SUMMARY

ES.1 INTRODUCTION

This summary is provided in accordance with California Environmental Quality Act Guidelines (State CEQA Guidelines) Section 15123. As stated in Section 15123(a), "an EIR [environmental impact report] shall contain a brief summary of the proposed action and its consequences. The language of the summary should be as clear and simple as reasonably practical." As required by the guidelines, this chapter includes (1) a summary description of the proposed Nevada County Broadband Program (proposed program) (i.e., project pursuant to State CEQA Guidelines Section 15378), (2) a synopsis of significant and potentially environmental impacts and recommended mitigation measures (Table ES-1), (3) identification of the alternatives evaluated and the environmentally superior alternative, and (4) a discussion of the areas of controversy associated with the program.

ES.2 SUMMARY DESCRIPTION OF THE PROJECT

ES.2.1 Project Location

The program area extends throughout much of Nevada County (county), located in the Sierra Nevada and foothills, approximately 30 miles northeast of Sacramento at its closest approach. The area in which future individual broadband projects could be implemented includes unincorporated areas of the county, City of Grass Valley, Nevada City, and Town of Truckee; it excludes federal lands and state highway rights-of-way. Unincorporated areas expected to be served by future broadband projects include the Donner Pass Road area (including the Serene Lakes area), Kingvale, Soda Springs, Cisco Grove, Washington, and other small communities. The exact alignments of future broadband projects are unknown at this time and would be based on such considerations as construction feasibility, local preference, and locations of sensitive environmental resources.

ES.2.2 Background and Need for the Project

Broadband provides high speed internet access via multiple types of technologies, including fiber optics, wireless, cable, digital subscriber line (DSL), and satellite. While some areas of the county have sufficient internet speeds for daily work and home life, there are still large portions of the county with no coverage or coverage so slow that use of the internet has become prohibitive to perform daily, essential tasks.

The ability to provide broadband internet in Nevada County has been challenging for several reasons. Primarily, the topography and geography of the county present barriers to broadband connectivity. Subsurface rock throughout the county is difficult and expensive to trench and dense forests, hills, and canyons obstruct the lines-of-sight needed for wireless technology. Also, the rural nature of the county does not support the population density needed to show sufficient returns on investment for some broadband project investors.

Since 2000, Nevada County has played an active role in promoting increased local broadband coverage. Some of the actions and policies that have been implemented to support broadband service and infrastructure include:

- providing grants to fund broadband projects implemented by local internet service providers;
- approving road standards to support an open trench "Dig Once" policy, which maximizes the potential for broadband to be included in any open trench construction activity taking place in the unincorporated county;
- approving the Nevada County Broadband Strategy Plan—a plan created by the Sierra Business Council that outlines various strategies for how broadband can be improved and expanded across the county; and

- approving the Last-Mile Broadband Grant—a pilot program to leverage county funds to support the development of Last-Mile broadband infrastructure in the unincorporated areas of the county to promote economic development. Last-Mile refers to connecting the end-user or customer's home or business to a local network provider. The development of Last-Mile transmission networks is the most cost-prohibitive component of broadband expansion in Nevada County.

Expansion of broadband service and infrastructure is vital to the communities in Nevada County for many reasons, which include:

- building social and community connections,
- civic engagement and participation,
- economic development and sustainability,
- education and continuous learning,
- health care and tele-health services, and
- recreation and entertainment.

ES.2.3 Project Objectives

The objectives of the program are to:

- provide upgradable and expandable high-speed broadband capacity in the service areas with minimum speeds of 25 megabits per second (Mbps) for downloads and 5 Mbps for uploads, consistent with the federal definition of "adequate service" for broadband and California's definition of broadband;
- provide a wireless broadband network in unserved and underserved areas of Nevada County;
- enable an increase in telecommuting, with a commensurate decrease in vehicle miles traveled;
- provide broadband infrastructure to support future statewide interconnection of major public safety answering points and a future statewide public safety network;
- enable connection of health facilities in the county through the California Telehealth Network;
- streamline the environmental review process for individual broadband projects that are implemented in the county;
- provide a reliable foundation of data and acceptable methodology to assess impacts for any specific broadband deployment project;
- identify known environmental and cultural assets to be protected and/or restored with an approved set of preservation measures and/or mitigations; and
- save time and money for both the county of Nevada and broadband project applicants, resulting in greater government and economic efficiencies, reducing the amount of county staff time required to review broadband projects and avoiding duplication of applicant costs.

ES.2.4 Characteristics of the Project

The program could develop approximately 2,230 miles of fiber-based infrastructure along public and private roadways and in previously disturbed and/or developed areas. New fiber optic line would be installed in existing conduit in some locations, which would not involve substantial new ground disturbance. Fiber optic conduit could also be installed to provide lateral connections to residences and businesses and under roadways where space is limited alongside the roadways. In new conduit construction, two conduits with microducts (smaller diameter conduits within a larger conduit) would be installed approximately 48 inches below the ground surface. The conduits

would include 1.25-inch-diameter and 2-inch standard dimension ratio polyethylene pipe. Microtrenching would also occur under the program, which would place conduit generally between 12 and 26 inches belowground. Access for maintenance purposes to the new conduits would be provided by installing access boxes (vaults) at intervals of not more than 3,000 feet along a route for an individual fiber project. Vaults are sized to accommodate pulling fiber through conduits. The general dimensions for each access vault would be 17 inches by 30 inches, 36 inches by 60 inches, or 24 inches by 36 inches, and would extend to 48 inches belowground surface.

Where topography or underground substrate would prohibit or impede subsurface fiber optic installation, individual fiber projects would install aboveground fiber optic line that would utilize existing or newly constructed utility poles.

Individual fiber projects that would be developed and implemented under the proposed program would be evaluated using a checklist developed by the County to document the evaluation of the individual project site and activities to determine whether or not it is a later activity within the scope of the analysis in this EIR (State CEQA Guidelines Section 15168[c]). If the activities are determined to be within the scope of the EIR, the applicable lead agency (determined by location of the individual fiber project) may approve the activities using this EIR without an additional environmental document (in accordance with Section 15168 of the State CEQA Guidelines for program EIRs). If a later activity would have effects that were not examined in this EIR, a new initial study would be prepared to determine whether the new impact would require preparation of an EIR, negative declaration, or a mitigated negative declaration. That later analysis may tier from the program EIR as provided in State CEQA Guidelines Section 15152. Individual fiber projects could also require permits or approvals from other state, regional, or local agencies.

ES.3 ALTERNATIVES TO THE PROPOSED PROGRAM

The following provides brief descriptions of the alternatives evaluated in this Draft EIR. Table ES-2 presents a comparison of the environmental impacts between the alternatives and the proposed program.

- Alternative 1: No Project Alternative assumes no additional broadband infrastructure would be installed and broadband capacity would be unchanged from existing conditions.
- Alternative 2: Reduced Program Area Alternative would focus on rural broadband infrastructure and exclude the incorporated areas of the Town of Truckee, City of Grass Valley, and Nevada City from the program area as a strategy to reduce construction effects in more densely populated areas.
- Alternative 3: Existing Infrastructure Alternative would prioritize the use of existing utility poles or underground conduit wherever it exists. New underground conduit would only be installed in areas where no existing aboveground or belowground infrastructure exists. This alternative is intended to reduce impacts associated with new infrastructure installation.

ES.3.1 Environmentally Superior Alternative

An EIR is required to identify the environmentally superior alternative from among the range of reasonable alternatives that are evaluated. Section 15126.6 (e)(2) of the State CEQA Guidelines requires that an environmentally superior alternative be designated and states that if the environmentally superior alternative is the No Project alternative, the EIR also is required to identify an environmentally superior alternative among the other alternatives.

Because the No Project Alternative would avoid all adverse impacts resulting from construction and operation of the proposed program, it is the environmentally superior alternative. However, the No Project Alternative would not meet the objectives of the program. As illustrated in Table ES-2, below, both Alternatives 2 and 3 would provide some environmental advantages over the proposed program.

The Reduced Program Area Alternative (Alternative 2) would result in less overall construction and operation of broadband infrastructure by avoiding all activities within incorporated communities. This would result in incrementally reduced impacts to all resource areas. While this alternative is feasible and would achieve most of the basic project objectives, it would achieve the project objectives to a lesser degree than the proposed program because it would

not improve broadband availability or reliability within the Town of Truckee, City of Grass Valley, or Nevada City, and would not provide benefits to the approximately 32,500 residents of those three incorporated communities.

The Existing Infrastructure Alternative would result in less overall construction of broadband infrastructure than both the proposed program and Alternative 2 because it would use existing utility poles and conduit and only construct new conduit where no existing infrastructure is available. This alternative would result in more fiber optic line installed aboveground on existing utility poles. This alternative would result in similar impacts to aesthetics and lesser impacts to all other resource areas compared to the proposed program. While this alternative would lessen multiple environmental impacts, it would result in a less reliable broadband network due to the increased prevalence of aboveground fiber optic line that could be affected by wildfires. This would achieve the project objectives to a lesser degree than the proposed program.

Both Alternatives 2 and 3 would offer different environmental benefits when compared to the proposed program. Both alternatives are potentially feasible and would achieve most of the basic project objectives, although project objectives would be achieved to a lesser degree than under the proposed program. Alternative 3: Existing Infrastructure Alternative, is the environmentally superior alternative because it would slightly reduce all other impacts associated with the proposed program.

ES.4 AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

A notice of preparation (NOP) was distributed for the proposed program on December 17, 2021, to responsible agencies, trustee agencies, interested parties and organizations, and private organizations and individuals that could have interest in the program. The NOP and responses to the NOP are included in Appendix A of this Draft EIR. Key concerns and issues that were expressed about the proposed program during the scoping process included the following:

- potential construction-related impacts to groundwater and surface water quality,
- potential impacts on tribal cultural resources and consultation with Native American tribes, and
- potential for conflicts in the California Department of Transportation right-of-way.

All of the substantive environmental issues raised in the NOP comment letters and at the scoping meeting have been addressed or otherwise considered during preparation of this Draft EIR.

ES.5 ENVIRONMENTAL IMPACTS AND RECOMMENDED MITIGATION MEASURES

ES.5.1 Project-Specific Impacts

This EIR has been prepared pursuant to CEQA (Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 1500, et seq.) to evaluate the physical environmental effects of the proposed Nevada County Broadband Program. The County is the lead agency for the program and has the principal responsibility for approving and carrying out the program and for ensuring that the requirements of CEQA have been met. After the Final EIR is prepared and the EIR public-review process is complete, the Nevada County Board of Supervisors is the party responsible for certifying that the EIR adequately evaluates the impacts of the project (i.e., program). In accordance with State CEQA Guidelines Section 15096, the incorporated jurisdictions (i.e., City of Grass Valley, Nevada City, and Town of Truckee) acting as responsible agencies must consider the EIR prepared by the County and reach their own conclusions on whether and how to approve the program.

Table ES-1 summarizes the significant and potentially significant environmental effects that would result from implementation of the proposed program, provides recommended mitigation measures, and identifies the level of

significance of the impact before and after mitigation. Impacts that are less-than-significant and do not require mitigation measures are included in the technical resource sections of this EIR (see Sections 3.2 through 3.10).

ES.5.2 Significant-and-Unavoidable Impacts and Cumulative Impacts

State CEQA Guidelines Section 15126.2(b) requires that an EIR describe any significant impacts, including those that can be mitigated but not reduced to a less-than-significant level. Sections 3.2 through 3.10 of this EIR address the potential environmental effects associated with the proposed program and recommend mitigation measures, as necessary, to mitigate potential effects associated with program implementation to the extent feasible. The analysis concludes that the proposed program would not result in significant and unavoidable impacts.

Table ES-1 Summary of Impacts and Mitigation Measures

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
Archaeological, Historical, and Tribal Cultural Resources			
Impact 3.3-1: Cause a Substantial Adverse Change in the Significance of a Historical Resource It is possible that fiber conduit installation could occur on the County's three bridges that have been determined eligible for listing in the NRHP and CRHR. While it is unlikely that the installation of a 4- to 6-inch galvanized iron pipe would result in a disturbance or alteration of existing features such that a change in a bridge's historical significance would result, the possibility remains. This impact would be potentially significant.	PS	**Mitigation Measure 3.3-1: Protect Historic Bridges** If new fiber conduit needs to be installed on Edwards Crossing Bridge (Bridge No. 17C0006), Purdon Crossing Bridge (Bridge #17C0024), or Donner Summit Bridge (Bridge No. 17C0052), the galvanized iron pipe shall be attached to the underside of the bridge in order to eliminate any visual obstruction of the bridge. If it is not possible to install the galvanized iron pipe under the bridge, it shall be installed on the side in such a way that provides maximum concealment. This could be accomplished by painting the pipe a similar color as the bridge material, installing the pipe alongside existing utility pipes on the bridge, or installing the pipe under the lip of the bridge deck or other concealed location.	LTS
Impact 3.3-2: Cause a Substantial Adverse Change in the Significance of Unique Archaeological Resources Installation of new fiber conduit could be located on properties that contain known or unknown archaeological resources and ground-disturbing activities could result in discovery or damage of yet undiscovered archaeological resources as defined in State CEQA Guidelines Section 15064.5. This would be a potentially significant impact.	PS	**Mitigation Measure 3.3-2a: Identify and Protect Archaeological Resources** During project-specific environmental review of individual broadband projects, the County (or other incorporated jurisdiction) shall define each project's area of effect for archaeological resources. The County shall determine the potential for the project to result in archaeological resource impacts, based on the extent of ground disturbance and site modification anticipated for the program. The County shall determine the level of archaeological investigation that is appropriate for the project site and activity, as follows: ▶ Directional Drilling ▪ If directional drilling is to occur in UAIC's high sensitivity zone and has more than three bore entry/exit points (six total), then a records search will be conducted through NWIC, and a qualified archaeological professional will survey the entry/exit point areas (if not paved). If the records search is positive and is confirmed by the survey results, then a qualified professional shall be retained to monitor any ground-disturbing activities. Standard stop-work mitigation measures shall be implemented (refer to Mitigation Measure 3.3-2b). If the subsequent project has fewer than three bore entry/exit points, no protection measures are required. ▪ If directional drilling is to occur in UAIC's low sensitivity zone and has more than six bore entry/exit points (12 total) then a records search will be conducted through NWIC, and a qualified archaeological professional will survey the entry/exit point areas (if not paved) if the records search result is positive. Standard stop-work mitigation measures shall be implemented	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
		(refer to Mitigation Measure 3.3-2b). If fewer than six bore entry/exit points, no protection measures are required. ▶ Plowing and Trenching ▪ If plowing and trenching is to occur in UAIC's high sensitivity zone and the plow slot is more than 350 feet, a records search will be conducted through NWIC, and a qualified archaeological professional will survey the plow slot area (if not paved). If the records search is positive and is confirmed by the survey results, then a qualified professional shall be retained to monitor any ground-disturbing activities. Standard stop-work mitigation measures shall be implemented (refer to Mitigation Measure 3.3-2b). If less than 350 feet, no protection measures are required. ▪ If plowing and trenching is to occur in UAIC's low sensitivity zone and the plow slot is more than 350 feet, a records search will be conducted through NWIC, and a qualified archaeological professional will survey if the records search result is positive. Standard stop-work mitigation measures shall be implemented (refer to Mitigation Measure 3.3-2b). If less than 350 feet, no protection measures are required. ▶ New Poles and Access Vaults ▪ If more than three new poles and access vaults are proposed in UAIC's high sensitivity zone, a records search will be conducted through NWIC, and a qualified archaeological professional will survey the areas (if not paved). If the records search is positive and is confirmed by the survey results, then a qualified professional shall be retained to monitor any ground-disturbing activities. Standard stop-work mitigation measures shall be implemented (refer to Mitigation Measure 3.3-2b). If less than three poles/vaults, no protection measures are required. ▪ If more than six new poles and access vaults are proposed in UAIC's low sensitivity zone, then a records search will be conducted through NWIC, and a qualified archaeological professional will survey the areas (if not paved) if the records search is positive. Standard stop-work mitigation measures shall be implemented (refer to Mitigation Measure 3.3-2b). If less than six poles/vaults, no protection measures are required. ▶ Micro Trenching ▪ No protection measures are required.	

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
		Mitigation Measure 3.3-2b: For All Ground-Disturbing Construction Activities, Halt Ground Disturbance Upon Discovery of Subsurface Archaeological Features In the event that any prehistoric or historic-period subsurface archaeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits are discovered during construction, all ground-disturbing activity within 100 feet of the find shall be halted and a qualified professional archaeologist shall be retained to assess the significance of the find. If the qualified archaeologist determines the archaeological material to be Native American in nature, the applicant shall contact the appropriate Native American tribe for their input on the preferred treatment of the find. If the find is determined to be significant by the archaeologist (i.e., because it is determined to constitute a unique archaeological resource), the archaeologist shall develop, and the applicant shall implement, appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to preservation in place, archival research, subsurface testing, or contiguous block unit excavation and data recovery.	
Impact 3.3-3: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource Although consultation did not result in the identification of any tribal cultural resources, UAIC expressed concern that resources could be discovered during ground-disturbing activities. Therefore, impacts to TCRs would be potentially significant.	PS	**Mitigation Measure 3.3-3a: Contact Geographically Affiliated Native American Tribes** During project-specific environmental review of subsequent broadband projects, the project proponent shall consult with the County to determine if the project site is in a high- or low-sensitivity area for tribal resources, according to a confidential map kept on file with the County. If the project site is located within an area of high sensitivity, the project proponent will notify UAIC. The notification will contain the following: ▶ A written description of the type of ground disturbance, location, and boundaries. ▶ A map of the project area at a sufficient scale to indicate the spatial extent of activities. ▶ A description of the activities (e.g., horizontal directional drilling, trenching, aboveground poles). ▶ A detailed description of the depth of excavation. ▶ A request for information regarding potential impacts to tribal cultural resources from the proposed ground-disturbing activities.	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
		If coordination with the Tribe confirms that the project site has a high sensitivity for tribal cultural resources, the project proponent will coordinate with UAIC to conduct a site-specific survey of the project area, assuming it is not paved. If tribal cultural resources are identified within a project area and cannot be avoided, implement Mitigation Measure 3.3-3b. If the project site is located within low sensitivity, then implement Mitigation Measure 3.3-3c. **Mitigation Measure 3.3-3b: Treatment of Tribal Cultural Resources that Cannot be Avoided** The project proponent, in consultation with UAIC, will develop effective protection measures for important tribal cultural resources located within the project site; a tribal monitor will be present on-site for all ground-disturbing activities. These measures may include reburial, if culturally appropriate, or tribal retention. Reburial will take place on-site in a location not subject to further disturbance. Permanent curation of tribal cultural resources will not take place unless approved in writing by UAIC. The project proponent will defer implementing the treatment until the tribe approves protection measures, or if agreement cannot be reached after a good-faith effort, the proponent determines that any or all feasible measures have been implemented. **Mitigation Measure 3.3-3c: Unanticipated Discovery of Tribal Cultural Resources** If any suspected tribal cultural resources are discovered during ground disturbing construction activities, all work shall cease within 50 feet of the find, UAIC shall be notified, and a qualified archaeologist shall be retained. A UAIC tribal representative, in conjunction with the qualified archaeologist, shall determine if the find is a tribal cultural resource, pursuant to PRC Section 21074. The tribal representative will make recommendations for further evaluation and culturally appropriate treatment of discovered tribal cultural resources as necessary in consultation with the archaeological professional. No data recovery or curation of any physical tribal cultural resource will be allowed unless this is the preference of the tribe, as confirmed in writing. Preservation in place is the preferred mitigation. If the County determines that preservation in place is not feasible, reburial if culturally appropriate will take place on-site in a location not subject to further disturbance. The reburial site will be agreed upon in advance by the tribe and the project applicant. Work at the discovery location cannot resume until all necessary investigation, evaluation, and treatment of the discovery under the requirements of CEQA have been satisfied.	

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
3.4 Biological Resources			
Impact 3.4-1: Result in Disturbance to or Loss of Special-Status Species and Habitat Fiber optic line installation activities, including ground disturbance and vegetation removal, could result in direct removal or destruction of special-status species, or their habitat, where natural habitats occur within the program area. Because the loss of special-status species or their habitat could substantially affect the abundance, distribution, and viability of local and regional populations of these species, this would be a potentially significant impact.	PS	**Mitigation Measure 3.4-1a: Review and Survey for Project-Specific Biological Resources** Proponents of individual fiber projects will retain a qualified biologist to conduct a data review and reconnaissance-level survey prior to fiber optic line installation to identify whether any special-status plant or animal species, riparian or other sensitive habitats, sensitive natural community, or wildlife nursery site (e.g., bat maternity roosts, deer fawning areas, heron or egret rookeries) could be affected. The data review will include the biological resources setting, species and sensitive natural communities tables, and habitat information in this PEIR as well as review of the best available, current data for the area, including vegetation mapping data, CNDDB, California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California, relevant Biogeographic Information and Observation System (BIOS) queries, and relevant general and regional plans. If suitable habitat for sensitive biological surveys is present based on the results of the data review and survey, the project proponent will do one of the following: ▶ Suitable Habitat Is Present but Can Be Clearly Avoided. If, based on the data review and reconnaissance-level survey, the qualified biologist determines that suitable habitat for sensitive biological resources is present but adverse effects on the suitable habitat can clearly be avoided through one of the following methods, the avoidance mechanism will be implemented prior to initiating ground disturbance and will remain in effect throughout the fiber optic line installation: ▪ Physically avoid the suitable habitat, including using directional drilling or aerial stringing instead of trenching or plowing, or ▪ Conduct fiber optic line installation outside of the season when a sensitive resource could be present within the suitable habitat or outside the season of sensitivity (e.g., outside of special-status bird nesting season, or outside of maternity and rearing season at wildlife nursery sites). ▪ Physical avoidance will include establishing environmentally sensitive areas through flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway) to delineate the boundary of the avoidance area around the suitable habitat. For physical avoidance, a buffer may be implemented as determined necessary by the qualified biologist.	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
		▶ Suitable Habitat Cannot Be Avoided. Further review and surveys will be conducted to determine presence/absence of sensitive biological resources that may be affected, as described in the mitigation measures below. Focused or protocol-level surveys will be conducted as necessary to determine presence/absence. If protocol surveys are conducted, survey procedures will adhere to methodologies approved by resource agencies and the scientific community, such as those that are available on the CDFW webpage at: https://www.wildlife.ca.gov/Conservation/Survey-Protocols. More specific survey requirements and avoidance/minimization measures may be required, as addressed by other mitigation measures. **Mitigation Measure 3.4-1b: Develop and Implement a Worker Environmental Awareness Program** Proponent of individual fiber projects will require crew members and contractors to receive training from a qualified biologist prior to beginning fiber optic line installation activities. The training will describe the appropriate work practices necessary to effectively implement the biological mitigation measures and to comply with the applicable environmental laws and regulations. The training will include the identification, relevant life history information, and avoidance of pertinent special-status species; identification and avoidance of sensitive natural communities and habitats with the potential to occur in the project area for individual fiber projects; impact minimization procedures; and reporting requirements. The training will instruct workers to allow any wildlife encountered during construction activities to leave the area unharmed and report encounters to a qualified biologist. The qualified biologist will immediately contact CDFW or USFWS, as appropriate, regarding relocation protocol if any wildlife protected by California Endangered Species Act (CESA) or Federal Endangered Species Act (ESA) is encountered and cannot leave the site on its own. **Mitigation Measure 3.4-1c: Special-Status Plant Surveys, Protection, and Mitigation** ▶ If Mitigation Measure 3.4-1a determines that suitable habitat for special-status plant species is present and cannot be avoided, proponents of individual fiber projects will retain a qualified botanist to conduct protocol-level surveys during the appropriate bloom period for special-status plant species with the potential to be affected by fiber optic line installation following the CDFW "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities" (CDFW 2018).	

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
		▶ If special-status plant species are not found, the botanist shall document the findings in a letter report to the proponent and no further mitigation shall be required. ▶ If special-status plant species are found on the project site and are located outside of the proposed trench or plow line, and can be avoided, the proponent shall establish and maintain a buffer around special-status plants to be retained to prevent disturbance to the plants. ▶ Alternatively, if feasible, directional drilling could be used in place of trenching or plowing to avoid direct and indirect impacts to special-status plant species. The directional drilling shall be at a depth and length that completely avoids the seedbank and root zone of special-status plants. ▶ If any state- or federally listed or CNPS List 1 or CNPS List 2 special-status plant species are found that cannot be avoided during construction and directional drilling is not a feasible option, the applicant shall consult with CDFW and/or USFWS, depending on species status, to determine the appropriate mitigation measures for direct and indirect impacts that could occur because of project construction and shall implement the agreed-upon mitigation measures to achieve no net loss of occupied habitat or individuals. Mitigation measures may include preserving and enhancing existing populations, creation of off-site populations on mitigation sites through seed collection or transplantation, and/or restoring or creating suitable habitat in sufficient quantities to achieve no net loss of occupied habitat and/or individuals. A mitigation and monitoring plan shall be developed describing how unavoidable losses of special-status plants shall be compensated. The mitigation and monitoring plan shall be submitted to CDFW and/or USFWS for review and comment. The final mitigation strategy for directly affected plant species shall be determined by the CDFW and the USFWS through the mitigation plan approval process. ▶ For state-listed plants, it may be necessary to obtain an incidental take permit under Fish and Game Code Section 2081. The project proponent shall consult with the CDFW to determine whether a 2081 permit is required and obtain all required authorizations prior to initiation of activities that could affect state-listed plants. ▶ If CNPS List 3 or CNPS List 4 special-status plant species are found that cannot be avoided during construction, Nevada County shall determine if the impacts	

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		to these plant occurrences could substantially affect the local population of these species based on their local rarity and significance. If the County determines project losses of the CNPS List 3 of 4 plant species could result in extirpation of the species from the County, or result in loss of viability of the species, the project proponent shall develop a mitigation plan for these species and submit it to the County for review and approval. Possible mitigation for impacts to CNPS List 4 plant species can include implementation of a program to transplant, salvage, cultivate, or re-establish the species at suitable sites (if feasible), or preservation of off-site occupied habitat through a conservation easement. ▶ If relocation efforts are part of the mitigation plan, the plan shall include details on the methods to be used, including collection, storage, propagation, receptor site preparation, installation, long-term protection and management, monitoring and reporting requirements, success criteria, and remedial action responsibilities should the initial effort fail to meet long-term monitoring requirements. Success criteria for preserved and compensatory populations shall include: ▪ The extent of occupied area and plant density (number of plants per unit area) in compensatory populations shall be equal to or greater than the affected occupied habitat prior to project implementation or to nearby reference populations. ▪ Compensatory and preserved populations shall be self-producing. Populations shall be considered self-producing when: • plants reestablish annually for a minimum of 5 years with no human intervention such as supplemental seeding; and • reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the project vicinity. ▶ If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures shall be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria such as those listed above and other details, as appropriate to target the preservation of long-term viable populations.	

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		Mitigation Measure 3.4-1d: Special-Status Wildlife Surveys, Protection, and Mitigation ▶ If Mitigation Measure 3.4-1a determines that suitable habitat for special-status wildlife species is present and cannot be avoided, proponents of individual fiber projects will require a qualified biologist to conduct focused or protocol-level surveys for special-status wildlife species with potential to be directly or indirectly affected by fiber optic line installation. This determination will be based on species distribution, known occurrences relative to the project area for individual fiber projects, and the presence of suitable habitat for these species in or near the project area. The survey area will be determined by a qualified biologist based on the species and habitats and any recommended buffer distances in agency protocols. ▶ The qualified biologist will determine if following an established protocol is required, in consultation with the appropriate resource agency. Survey timing and methodology will follow established survey protocols, where protocols are required. Unless otherwise specified in a protocol, the survey will be conducted no more than 14 days prior to the beginning of construction activities that could affect special-status wildlife or their habitat. Focused or protocol surveys for a special-status species with potential to occur in the project area may not be required if presence of the species is assumed. ▶ If protocol surveys determine a special-status species is not present, the qualified biologist shall document the findings in a letter report to the appropriate agency and the proponent and no further mitigation shall be required. ▶ If special-status wildlife species are found on the project site and the species or habitat for the species is located outside of the proposed fiber optic line installation area for trenching or plowing, and can be avoided, and a qualified biologist determines direct and indirect impacts will be negligible, the proponent shall establish and maintain a buffer around special-status species habitat to be retained to prevent disturbance to the species. ▶ If special-status wildlife species or species habitat are found that cannot be avoided during construction, the following will apply: ▶ For species listed as threatened or endangered under ESA or CESA, existing state and federal laws require consultation and take authorization. Potential impacts will be addressed through implementation of project-specific compensatory or other mitigation for any adverse effects on these species as	

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		a condition of project approval. Specifically, USFWS and CDFW would not permit a project that would degrade habitat or result in take of a state or federally listed species without compensatory mitigation to offset losses of state or federally listed species and their habitat. Nevada County will require proponents of individual fiber projects to obtain any required take permits prior to project implementation. ▶ For other special-status species that have less formal regulatory protection (e.g., CDFW species of special concern), significant impacts would be minimized by modifying the installation method to avoid special-status species by using directional drilling or aerial installation, and through development and implementation of project-specific mitigation measures consistent with applicable state and federal requirements and standards for any significant impacts as a condition of project approval to reduce impacts to less than significant under CEQA. For species for which standard, established mitigation guidance exists (e.g., established by CDFW, USFWS, or NMFS), developed mitigation measures would follow these standards or provide a similar level of protection. These measures could include implementing no-disturbance buffers, limited operating periods for construction and operations, implementing alternative fiber optic line installation methods such as directional drilling, stringing fiber optic line on bridges or power lines, or installing fiber optic line underneath pavement, or compensatory habitat creation, enhancement, or restoration. In the absence of previously established guidance or standards, mitigation would be developed in consultation with the appropriate agencies with jurisdiction over the affected species (e.g., CDFW, USFWS, NMFS). **Mitigation Measure 3.4-1e: Avoid Nesting Birds** Where possible, vegetation removal and project activities will occur outside of the active nesting bird season as determined by the qualified biologist. However, if work during the nesting season is unavoidable, proponents of individual fiber projects will retain a qualified biologist to conduct surveys for nesting birds within and adjacent to the project area. The area for surveys will be determined by the qualified biologist based on the potential species in the area and presence of suitable habitat. Surveys should be timed no more than 1 week prior to vegetation removal or project activities that could disturb nesting birds. If active nests are detected, the project proponent will establish a temporary buffer around the nest that is sufficient to ensure that breeding is not likely to be disrupted or adversely	

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		affected by construction activities, as determined by a qualified biologist. Factors to be considered for determining buffer size will include the following: presence of natural buffers provided by vegetation or topography, nest height, locations of foraging territory, baseline levels of noise and human activity, species sensitivity, and expected treatment activities. Buffers will be maintained until a qualified biologist determines the young have fledged or the nest is no longer active.	
Impact 3.4-2: Result in Destruction or Adverse Modification of Areas Designated by USFWS as Critical Habitat for Sierra-Nevada Yellow-legged Frog and California Red-legged Frog Fiber optic line installation, including vegetation removal and ground disturbance, may result in the loss or degradation of USFWS designated critical habitat for Sierra Nevada yellow-legged frog and California red-legged frog, if critical habitat occurs within the program area. This would be a potentially significant impact.	PS	**Mitigation Measure 3.4-2: Avoid or Compensate for Loss of Critical Habitat for Sierra Nevada Yellow-Legged Frog and California Red-Legged Frog** Wherever feasible, fiber optic line installation will be designed to avoid construction activities within or adjacent to critical habitat as designated by USFWS. This could include switching installation methods from trenching or plowing to directional drilling or aerial stringing. If avoidance is not feasible, informal consultation with USFWS will determine a mitigation strategy to ensure that construction activities do not result in the destruction and adverse modification of the value of the habitat or affect the survival and recovery of Sierra Nevada yellow-legged frog and California red-legged frog. Measures are likely to include seasonal restrictions, reduced construction corridors, pre-construction surveys, worker environmental education sessions, biological monitoring, and re-vegetation programs.	LTS
Impact 3.4-3: Result in Loss or Degradation of Riparian Habitat and Other Sensitive Natural Communities Fiber optic line installation, including vegetation removal and ground disturbance, may result in the loss or degradation of riparian habitat or other sensitive natural communities, if they occur within the program area. This would be a potentially significant impact.	PS	**Mitigation Measure 3.4-3a: Implement Mitigation Measure 3.4-1a.** See above. **Mitigation Measure 3.4-3b: Obtain All Required Regulatory Authorizations if Project-Specific Fiber Optic Line Installation Would Result in Impacts to Riparian Habitats within CDFW Jurisdiction** If it is determined that project-specific fiber optic line installation could affect the bed, bank, channel, or associated riparian habitat subject to CDFW jurisdiction under Fish and Game Code Section 1602, a Streambed Alteration Notification shall be submitted to CDFW, pursuant to Section 1600 et seq. of the California Fish and Game Code. If proposed activities are determined to be subject to CDFW jurisdiction, the proponents of individual fiber projects shall abide by the conditions of any executed Lake and Streambed Alteration Agreement. **Mitigation Measure 3.4-3c: Prevent Spread of Invasive Plants and Noxious Weeds** Proponents of individual fiber projects will take the following actions to prevent the spread of invasive plants and noxious weeds:	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		▶ identify and map significant infestations of invasive plant species (i.e., those rated as invasive by Cal-IPC or designated as noxious weeds by California Department of Food and Agriculture) during reconnaissance-level surveys. ▶ clear clothing, footwear, and equipment used during fiber optic line installation of soil, seeds, vegetative matter or other debris or seed-bearing material before entering the project area or when leaving an area with infestations of invasive plants and noxious weeds; ▶ for all heavy equipment and vehicles traveling off road, pressure wash, if feasible, or otherwise appropriately decontaminate equipment at a designated weed-cleaning station prior to entering the project area from an area with infestations of invasive plants and noxious weeds; ▶ inspect all heavy equipment, vehicles, tools, or other treatment-related materials for mud or other signs that weed seeds or propagules could be present prior to use in the project area; and ▶ stage equipment in areas free of invasive plant infestations.	
Impact 3.4-4: Degradation of State or Federally Protected Wetlands and Waters of the United States or Waters of the State Construction activities would avoid direct impacts to wetlands and sensitive aquatic resources, but fiber optic line installation activities would occur adjacent to or underneath (in the case of directional drilling) aquatic resources. Aquatic resources could be indirectly affected by erosion and sedimentation, or by the accidental introduction of oil, fuel, or other pollutants from construction equipment and materials, or by "frac-out" (i.e., the escape of drilling materials or sediment into the environment). This would be a potentially significant impact.	PS	**Mitigation Measure 3.4-4a: Implement Mitigation Measure 3.8-1.** See below. **Mitigation Measure 3.4-4b: Avoid Effects on Aquatic Habitat, Including Wetlands and Waters of the State and the United States** ▶ Ground disturbing (trenching, plowing, or grading) work within 20 feet of jurisdictional waters of the State or of the United States, and all directional drilling activities under waterways shall be monitored full-time by a County-approved biologist to assure that there is no surface disturbance to jurisdictional waters or impacts to downstream water quality, and to ensure drilling is immediately stopped and the drilling fluid seepage and spill prevention measures are implemented, in the case of a frac-out. CDFW or the Central Valley RWQCB may establish additional conditions to protect waters of the State and water quality, as described in any Lake and Streambed Alteration Agreement, Water Quality Certification, or waste discharge requirements issued for the project. ▶ All vehicles and equipment shall be maintained in proper working condition to minimize the potential for ▶ fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials.	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		▶ Hazardous spills shall be cleaned up immediately and the contaminated soil properly disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated area. Service/maintenance vehicles shall carry a bucket and pads to absorb leaks or spills. ▶ Because fuels, lubricants, and solvents may be stored in staging areas, all staging areas shall be located at least 150 feet away from lakes, streams, drainages, and wetlands.	
Impact 3.4-5: Interfere Substantially with Wildlife Movement Corridors or Impede Use of Nurseries The program area is within identified ECAs or Natural Landscape Blocks. Fiber optic line installation could occur in areas used as wildlife movement corridors or nursery sites (e.g., bat maternity roosts, deer fawning areas, heron or egret rookeries). Installation related noise and disturbance could lead to temporary changes in migration or movement patterns. Fiber optic line would be buried or would be installed through aerial stringing and therefore would not create barriers to wildlife long-term. Temporary shifts in wildlife movements to avoid or navigate around fiber optic line installation and associated disturbances would not substantially interfere with movement requirements or migration patterns; and program implementation would not create permanent barriers to local or landscape-level movements. This would be a less-than-significant impact. Installation of fiber optic line through waterways would be accomplished through directional drilling and would avoid direct impacts to aquatic habitat. However, a frac-out could temporarily affect aquatic movement corridors. Installation-related noise and disturbance, and construction activities such as tree and vegetation removal could result in loss or temporary disturbance of wildlife nursery sites if these occur adjacent to roadways. This would be a potentially significant impact.	PS	**Mitigation Measure 3.4-5a: Retain Nursery Habitat and Implement Buffers to Avoid Nursery Sites** Proponents of individual fiber projects will implement the following measures while working in the project area for individual fiber projects that contain nursery sites identified in surveys conducted pursuant to Mitigation Measure 3.4-1a: ▶ **Retain Known Nursery Sites.** A qualified biologist will identify the important habitat features of the wildlife nursery and, prior to construction activities, will mark these features for avoidance and retention during fiber optic line installation. ▶ **Establish Avoidance Buffers**. The proponent will establish a non-disturbance buffer around the nursery site if activities are required while the nursery site is active/occupied. The appropriate size and shape of the buffer will be determined by a qualified biologist, based on potential effects of project-related habitat disturbance, noise, visual disturbance, the potentially affected species, and other factors. No construction activity will commence within the buffer area until a qualified biologist confirms that the nursery site is no longer active/occupied. Monitoring of the nursery site by a qualified biological monitor during and after construction activities will be required if a qualified biologist determines that proposed activities could disrupt use of active nursery sites. If construction activities cause agitated behavior of the individual(s), the buffer distance will be increased, or construction activities modified until the agitated behavior stops. **Mitigation Measure 3.4-5b: Implement Mitigation Measure 3.8-1.** See below.	LTS
Impact 3.4-6: Potential Conflict with Local Policies or Ordinances Fiber optic line installation could conflict with local policies or ordinances protecting biological resources, such as local tree preservation policies, standards, and ordinances. Following the restrictions and mitigations required in	PS	**Mitigation Measure 3.4-6: Prepare a Biological Inventory and Avoid or Compensate for Loss of Landmark or Heritage Trees or Groves** If an individual fiber project requires tree removal, a qualified arborist will prepare a Biological Inventory that details the species and DBH of all trees subject to possible	LTS

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Chapter 12.36 of the City of Grass Valley code, Chapter 18.01 of the Nevada City code, and Section 18.30.155 of the Town of Truckee code would avoid significant impacts related to tree removal. Tree removal associated with the program within Nevada County could conflict with Section L-II 4.3.15, Tree Resource Protection Standards, in Title 3 of the County Land Use and Development Code. This would be a potentially significant impact.		tree removal and will identify any landmark and heritage trees and groves. If landmark and heritage trees or groves are identified and can be avoided, no further mitigation is required. Prior to approval of a site plan, grading plan, or any permit authorizing construction, the project proponent shall prepare a Management Plan as required under the Nevada County Tree Resource Protection Standards. The Management Plan shall specify measures to mitigate for the loss of defined trees and groves to ensure no net loss of oak or hardwood habitat, and emphasis will be placed on protection of blue oaks (*Quercus douglasii*) and valley oaks (*Quercus lobata*). Measures could include preservation of on-site oak woodlands in a conservation easement, purchase and preservation of off-site oak woodlands, on- or off-site enhancement of degraded oak woodlands, or by paying in-lieu fees into a County-approved fund used to purchase and preserve comparable oak woodland or hardwood communities in the region. The Management Plan shall also include measures to protect trees during construction and following fiber optic line installation. Measures could include specifications for protective fencing and construction buffers, or fiber optic line installation method changes. The plan shall identify financial responsibility and funding sources for all measures.	
3.5 Geology, Soils, and Mineral Resources			
Impact 3.5-4: Result in the Loss of a Unique Paleontological Resource or Unique Geological Feature Paleontological resources and unique geological features exist in Nevada County. Unique geological features are generally aboveground and therefore would not be affected by the program. Because individual fiber projects would primarily be implemented in disturbed road shoulders and only in very limited areas of bedrock, and because of the limited paleontological bearing formations in Nevada County as well as the small diameter of the conduit to be installed, impacts to paleontological resources would be minimized. Nevertheless, unique paleontological resources could be damaged or destroyed during construction. Mitigation Measure 3.5-4 requires a site-specific paleontological resource assessment and moving facilities aboveground if any paleontological resources could be affected. The impact would be potentially significant.	PS	**Mitigation Measure 3.5-4: Perform a Site-Specific Paleontological Resources Inventory Assessment by Rock Unit and if Paleontological Resources Could be Affected, Install Fiber Optic Line Aboveground** Before submitting a grading permit application that would include boring through bedrock, the applicant for an individual fiber project shall retain the services of a qualified professional paleontologist who shall prepare a paleontological resources inventory and assessment for any affected rock units. This report shall include the following components: ▶ A report of any fossils observed during a reconnaissance-level field survey. ▶ The results of a records search of appropriate paleontological databases (at a minimum, the database at the University of California, Berkeley Museum of Paleontology) to determine whether any previously recorded fossil localities are located within or immediately adjacent to the fiber optic facilities where rock boring is proposed.	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		▶ A determination as to whether the geologic formations are of high or low paleontological sensitivity, and a discussion supporting the reasons why the sensitivity determinations were made. If the rock formation is determined to be of high paleontological sensitivity, the fiber optic infrastructure will be designed to be installed aboveground. Prior to issuance of grading permits that would allow for boring in bedrock, the approving local jurisdiction will review the report and findings to confirm no paleontological resources would be affected.	
3.7 Hazards and Hazardous Materials			
Impact 3.7-2: Cause Reasonably Foreseeable Upset and/or Accident Conditions or Be Located on a Hazardous Waste Site Because numerous hazardous waste sites are present along roadways within the program area, contaminated soil or groundwater may be encountered during excavation activities for fiber optic line installation. Other contaminants associated with historic land uses, such as aerially deposited lead, organochlorinated pesticides, and mine waste, may be present in soils where fiber optic line installation would occur. If released to the environment, hazards to people or the environment would be a potentially significant impact.	PS	**Mitigation Measure 3.7-2: Conduct Soil and Groundwater Sampling and Testing if Contamination is Suspected** Soil sampling shall be conducted in the project footprint before construction begins on or adjacent to hazardous waste sites identified on DTSC- and SWRCB-maintained databases of known contaminated sites. Soil information shall be provided to construction crews to inform them about soil conditions and potential hazards. If hazardous substances are unexpectedly encountered during trenching, grading, or excavating work, work shall be stopped until the material is properly characterized and appropriate measures are taken to protect human health and the environment. If excavation of soil contaminated with hazardous materials is required, the materials shall be handled, transported, and disposed of in accordance with federal, state, and local regulations. If suspected contaminated groundwater is encountered in the construction areas, samples shall be collected and submitted for analysis of petroleum hydrocarbons, metals, volatile organic compounds, and semivolatile organic compounds. If necessary, groundwater shall be collected during construction, contained, and disposed of in accordance with federal, state, and local regulations.	LTS
Impact 3.7-3: Emit or Handle Hazardous Materials, Substances, or Waste Within One-Quarter Mile of an Existing or Proposed School Schools may be located within one-quarter mile of individual fiber project construction activities. While unlikely, fiber installation projects could result in accidental spills of fuel or oil, or expose contaminated soil or groundwater within one-quarter mile of an existing or proposed school. This impact would be potentially significant.	PS	**Mitigation Measure 3.7-3: Implement Mitigation Measure 3.7-2.** See above.	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
LTS = Less than significant PS = Potentially significant S = Significant SU = Significant and unavoidable			
Impact 3.7-6: Expose People or Structures, Either Directly or Indirectly, to a Significant Risk of Loss, Injury, or Death Involving Wildland Fires Installation of new fiber optic cable would involve activities that could result in a temporary increase in risk for wildfires by increasing sources of ignition through use of vehicles and equipment in the vicinity of dry fuel and from certain worker behaviors. This, in turn, could increase the risk of exposing project occupants and structures to a significant risk of loss, injury, or death involving wildland fires. Operation of the new fiber optic lines would involve minimal maintenance and the lines are not a source of heat or combustion. Therefore, they would not increase the risk of wildland fires in the area. While the potential may be remote, wildfire resulting from construction activities or worker behavior would be potentially significant.	PS	**Mitigation Measure 3.7-6: Fire Prevention and Cessation** The construction contractors for individual fiber projects shall implement the following measures for all construction activities to prevent and address wildfires: ▶ Train and brief all construction workers on fire prevention and suppression methods, including requirements for carrying emergency fire suppression equipment on the project site. ▶ Construction "tailgate meetings" shall be held daily, prior to construction and cover the following topics: fire safety, smoking restrictions, idling vehicles, and restricting construction during red flag warnings. ▶ No construction work will occur during times of high fire threat, and if conditions change after commencing construction, work will cease in periods of extreme fire danger, such as red flag warnings issued by the National Weather Service or other severe fire weather conditions as identified by Nevada County.	LTS
3.8 Hydrology and Water Quality			
Impact 3.8-1: Violate any Water Quality Standards, Waste Discharge Requirements, Water Quality Control Plan or Otherwise Substantially Degrade Surface or Groundwater Quality Implementation of the proposed program would disturb soil during construction increasing the potential for erosion that could degrade surface or groundwater quality. Construction equipment has the potential to leak gasoline, diesel fuel, engine oil, and hydraulic fluid that could affect surface and groundwater quality. Additionally, drilling fluids could seep or spill into nearby water bodies, which could affect ground and surface water quality. Surface water and groundwater resources vary throughout the county. Due to the shallow nature of the broadband conduit, groundwater would not likely be affected by the program. The program would not require work in any wetlands or Waters of the US or State. With adherence to the NPDES Construction General Permit and all Town, City, and County codes, the program would not cause substantial erosion or adversely affect water quality from fluids from construction equipment. Though unlikely, the use of drilling fluids during directional boring beneath streams could result in frac-out, or the seepage of drilling fluid from the boring into the surface water. This impact would be potentially significant.	PS	**Mitigation Measure 3.8-1: Implement Drilling Fluid Seepage and Spill Prevention Measures** Drilling fluid containment and cleanup equipment (e.g., certified weed-free bales, silt fencing, and portable pumps) will be present for use in the work area where there is a potential for frac-out or spills of drilling fluid. BMPs will be installed between the bore site and any flowing stream or wetland to prevent the mixture from entering the stream or wetland. Spill areas will be restored to pre-spill conditions, as practicable, and spill documentation and reporting will be carried out. Portable pumps will be kept on-site to control seepage to the surface and to prevent the mixture from entering streams or wetlands. If the mixture seeps to the surface in the stream or wetland channel, a pump will be used to pump it back to the drill site. If a release occurs at a high-risk boring location, the stream flow will be immediately dammed and flumed, and the bentonite will be contained and removed. At locations where boring is taking place adjacent to streams or wetlands, damming and flume materials will be pre-staged. During directional boring activities near streams or wetlands, construction crews will visually monitor bentonite flow and returns so that fluid loss can be identified before the material surfaces in the stream channel and promptly stop work if there is a detection of any bentonite or construction material release. If a spill is detected in a flowing channel,	LTS

Impacts	Significance before Mitigation	Mitigation Measures	Significance after Mitigation
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		wetland, or other sensitive resource area, drilling will cease immediately, and spill prevention and control measures will be immediately employed to safely contain and remove the spilled materials. Concurrent with implementation of the containment measures, construction crews will contact the appropriate resource agency personnel, as indicated on local, state, or federal permits.	
3.9 Noise			
Impact 3.9-1: Exposure of Persons to or Generation of Excessive Construction Noise The program would generate temporary, intermittent construction noise as individual fiber projects are implemented. Construction noise is exempt from noise standards for projects located within unincorporated Nevada County and the Town of Truckee. Construction equipment could reach a noise level of 83 dB L_{eq} at 50 feet; thus, construction activity would not exceed Nevada City's construction noise standard of 90 dB within 50 feet. However, construction equipment operation would surpass 90 dB within 23 feet of construction. Similarly, individual fiber projects located in the City of Grass Valley could exceed the daytime noise standard for residential uses of 55 dB L_{eq} if construction were to occur within 1,269 feet of sensitive receptors. Because individual fiber project information is not known at this time, it is unknown whether individual projects would be located farther than 1,269 feet or 23 feet from sensitive receptors in the City of Grass Valley and Nevada City, respectively. In any case, construction activities along any given roadway or fiber route would be temporary and would not require any stationary noise equipment. Notwithstanding, construction activities in the vicinity of sensitive receptors could generate noise levels that cause discomfort or annoyance throughout the program area. Therefore, the impact would be potentially significant.	PS	**Mitigation Measure 3.9-1: Implement Measures to Reduce Exposure to Construction Noise** The construction contractors for individual fiber projects shall comply with the following measures for all construction activity to take place within 1,269 feet of noise sensitive receptors in the City of Grass Valley, Nevada County, and/or Town of Truckee and that are anticipated to generate exterior noise levels above 55 dB L_{eq} or that are within 23 feet of noise sensitive receptors in Nevada City: ▶ Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. ▶ Locate noise generating equipment as far as possible from noise-sensitive uses when noise-sensitive uses adjoin or are near a construction project area. ▶ Use "quiet" air compressors and other stationary noise-generating equipment where appropriate technology exists. ▶ The project sponsor shall designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler) and will require that reasonable measures warranted to correct the problem be implemented. The project sponsor shall also post a telephone number for excessive noise complaints in conspicuous locations in the vicinity of the project site and send a notice to neighbors in the project vicinity with information on the construction schedule and the telephone number for noise complaints. ▶ Install temporary noise curtains as close as possible to the noise-generating activity such that the curtains obstruct the direct line of sight between the noise-generating construction activity and the nearby sensitive receptors. Temporary noise curtains shall consist of durable, flexible composite material featuring a noise barrier layer bounded to sound-absorptive material on one side. The noise barrier layer shall consist of rugged, impervious, material with	LTS

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		a surface weight of at least 1 pound per square foot. ▶ Noise-reducing enclosures and techniques shall be used around stationary noise-generating equipment (e.g., concrete mixers, generators, compressors). ▶ Operate heavy-duty construction equipment at the lowest operating power possible. ▶ Provide a minimum of 1 week of advance notice to owners of all residential located within 1,300 feet of where construction activity would take place. This noticing shall inform the recipients of when and where construction would occur and the types of measures being implemented to lessen the impact at potentially affected receptors. This noticing shall also provide the contact information for the designated disturbance coordinator.	

Source: Compiled by Ascent Environmental in 2022.

Table ES-2 Summary of Environmental Effects of the Alternatives Relative to the Proposed Program

Environmental Topic	Proposed Program	Alternative 1: No Project Alternative	Alternative 2: Reduced Program Area Alternative	Alternative 3: Existing Infrastructure Alternative
Aesthetics	LTSM	No Impact	Similar to Slightly Less	Similar
Archaeological, Historical, and Tribal Cultural Resources	LTSM	No Impact	Similar to Slightly Less	Less Impact
Biological Resources	LTSM	No Impact	Similar to Slightly Less	Less Impact
Geology, Soils, and Mineral Resources	LTSM	No Impact	Similar to Slightly Less	Less Impact
Greenhouse Gas Emissions and Climate Change	LTS	No Impact	Similar to Slightly Less	Less Impact
Hazards and Hazardous Materials	LTSM	No Impact	Similar to Slightly Less	Less Impact
Hydrology and Water Quality	LTSM	No Impact	Similar to Slightly Less	Less Impact
Noise	LTSM	No Impact	Similar to Slightly Less	Less Impact
Transportation	LTS	No Impact	Similar to Slightly Less	Less Impact

Notes: LTSM = less than significant with mitigation, LTS = less than significant.

Source: Compiled by Ascent Environmental in 2022.

1 INTRODUCTION

This draft environmental impact report (Draft EIR) evaluates the environmental impacts of the proposed Nevada County Broadband Program (proposed program) (i.e., proposed project for the purposes of CEQA). The Draft EIR has been prepared under the direction of Nevada County, as lead agency, in accordance with the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations [CCR] Section 15000 et seq.). This chapter of the Draft EIR provides information on the following:

- project requiring environmental analysis (i.e., project overview),
- purpose and intended uses of the Draft EIR,
- scope of the Draft EIR,
- public review process,
- Draft EIR organization, and
- standard terminology used in the Draft EIR.

1.1 PROJECT REQUIRING ENVIRONMENTAL ANALYSIS

The proposed program would expand access to broadband technology throughout unincorporated Nevada County and the incorporated communities of City of Grass Valley, Nevada City, and the Town of Truckee. The County, incorporated cities, or individual service providers would construct individual broadband projects consistent with the program analyzed in this EIR. The program area excludes federal lands and state highways (except in limited instances where an individual fiber optic line section would require crossing a state highway).

The exact alignments of future broadband projects implemented in accordance with the program are unknown at this time and would be based on such considerations as construction feasibility, local preference, and locations of sensitive environmental resources. The fiber optic lines would generally be installed underground following public or private roadways throughout the county with the intention to minimize or avoid disturbance of roadway surfaces where feasible; however, it is possible some fiber optic line could be installed directly under roadways in areas with limited shoulder space or where existing conduit under the road may be used, avoiding new surface disturbance. The program area would also include those areas where lateral lines are installed between public or private roadways and individual businesses or residences. Individual residence or business connections typically would be located in previously disturbed and/or developed areas (e.g., adjacent to driveways or in landscaped areas), and generally would avoid drainages and sensitive habitats. Lateral alignments would typically follow other utility installations, such as electrical. Where subsurface installation of fiber optic cable is infeasible, aerial installation on new or existing poles would occur. Access to the new conduits that house the fiber optic cable would be provided by installing access boxes (vaults) at intervals of not more than 3,000 feet along a route for an individual project.

The program details are further described in Chapter 2, "Project Description."

1.2 PURPOSE AND INTENDED USES OF THIS EIR

According to CEQA, preparation of an EIR is required whenever it can be fairly argued, based on substantial evidence, that a proposed program may result in a significant environmental impact. An EIR is an informational document used to inform public-agency decision makers and the general public of the significant environmental impacts of a project, identify possible ways to minimize the significant impacts, and describe reasonable alternatives to the project that could feasibly attain most of the basic objectives of the project while substantially lessening or avoiding any of the

significant environmental impacts. Public agencies are required to consider the information presented in the EIR when determining whether to approve a project.

This Draft EIR has been prepared to meet the requirements of a program EIR as defined in State CEQA Guidelines Section 15168(c) for streamlining later activities. In accordance with Section 15168 of the State CEQA Guidelines, a program EIR may be prepared on a series of actions that can be characterized as one large project and are related to, among other things, the issuance of general criteria to govern the conduct of a continuing program or individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects that can be mitigated in similar ways. The proposed program meets these criteria for use of a program EIR.

In accordance with State CEQA Guidelines Section 15168(c), subsequent activities consistent with the program would be examined in light of the information in this program EIR to determine whether additional environmental documentation must be prepared. If the lead agency finds that, pursuant to State CEQA Guidelines Section 15162, no new significant effects would occur and no new mitigation measures would be required, the activity can be approved as being within the scope of the proposed program covered by the program EIR, and no new environmental documentation would be required. In this situation, the lead agency must incorporate all feasible mitigation measures from the program EIR into the subsequent project, as needed, to address significant or potentially significant effects on the environment covered by the program EIR.

A program EIR provides a regional consideration of cumulative effects and includes broad policy alternatives and program mitigation measures that are equally broad in scope. This program EIR provides a regional scale analysis and a framework of mitigation measures for subsequent, site-specific environmental review documents prepared by lead agencies in the County as individual broadband projects are identified and designed and moved through the planning, review, and decision-making processes.

A program EIR may serve as a first-tier document for later CEQA review of individual projects determined not to be wholly within the scope of the program EIR. These project-specific CEQA reviews, if needed, will focus on project-specific impacts and mitigation measures and need not repeat the broad analyses contained in the program EIR. This document addresses environmental impacts to the level that they can be assessed without undue speculation (State CEQA Guidelines Section 15145).

If a subsequent project or later activity consistent with the program would have effects that were not examined in this program EIR, an initial study may be prepared to determine the appropriate level of environmental review. If another environmental document is needed, whether it is a notice of exemption, negative declaration, mitigated negative declaration, or EIR, the program EIR can be used to simplify the task of preparing the subsequent environmental document, as indicated in State CEQA Guidelines Section 15168(d). For instance, regional influences, secondary effects, cumulative impacts, and broad alternatives that apply to the overall program can be incorporated by reference, allowing the later environmental document to focus solely on the new effects, such as site-specific environmental impacts related to project design that had not been previously considered in the program EIR. Any project-specific impacts that are too speculative to define at the program level would be resolved during CEQA review of individual projects.

The program area includes areas within the incorporated portions of the county, City of Grass Valley, Nevada City, and Town of Truckee. As defined by State CEQA Guidelines Section 15381, these local agencies are considered responsible agencies (i.e., public agencies other than the lead agency that have the authority to carry out or approve a project). To approve later activities under the program, the responsible agencies would make findings for each significant effect disclosed in the EIR, file a Notice of Determination, and review subsequent projects within their respective jurisdictions to determine whether they are within the scope of the program EIR or require subsequent environmental review.

Fiber optic installation projects located strictly in urban areas, installation projects involving placement of fiber only within existing conduits, and projects involving use of existing fiber without the need for any construction or fiber placement are typically exempt from CEQA because of the negligible potential for significant environmental effects.

The program involves fiber optic installation in a combination of urban and in nonurban areas. In both areas, the project would include installation of fiber using construction and installation of new conduits, use of existing conduits in areas where available, and use of existing fiber where available. Although there is negligible potential for impacts on sensitive environmental resources associated with placing fiber in existing conduits or use of existing fiber, these aspects of the program are nevertheless addressed in this EIR because it is possible that activities such as blowing fiber into existing conduit, which requires the use of vehicles and air compressors, when combined with construction activities (associated with conduit installation) could together result in potential construction-related environmental impacts on air quality, noise, and traffic.

1.3 SCOPE OF THIS DRAFT EIR

This Draft EIR includes an evaluation of the following 11 environmental issue areas as well as other CEQA-mandated issues (e.g., cumulative impacts, growth-inducing impacts, significant unavoidable impacts, alternatives):

- Aesthetics;
- Archaeological, Historical, and Tribal Cultural Resources;
- Biological Resources;
- Geology, Soils, and Mineral Resources;
- Greenhouse Gas Emissions and Climate Change;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality;
- Noise; and
- Transportation.

Under the CEQA statutes and the State CEQA Guidelines, a lead agency may limit an EIR's discussion of environmental effects when such effects are not considered potentially significant (PRC Section 21002.1[e]; State CEQA Guidelines Sections 15128, 15143). Information used to determine which impacts would be potentially significant was derived from review of the program; review of applicable planning documents and CEQA documentation; feedback from public and agency consultation; and comments received on the Notice of Preparation (NOP) (see Appendix A of this Draft EIR).

The NOP was distributed on December 17, 2021, to responsible and trustee agencies and potentially interested members of the public. The purpose of the NOP was to provide notification that an EIR for the program was being prepared and to solicit input on the scope and content of the environmental document. As a result of the review of existing information and the scoping process, it was determined that each of the issue areas listed above should be evaluated in this Draft EIR. Further information on the NOP and scoping process is provided below in Section 1.4, "Public Review Process."

1.4 PUBLIC REVIEW PROCESS

As noted above, an NOP was distributed on December 17, 2021, to responsible agencies, trustee agencies, interested parties and organizations, and private organizations and individuals that could have interest in the project. The NOP was available at the Nevada County offices at 950 Maidu Avenue, Nevada City, California and online at https://www.mynevadacounty.com/513/Projects-Supporting-Documents, and availability of the NOP was advertised in The Union and Sierra Sun.

The purpose of the NOP was to provide notification that an EIR for the Nevada County Broadband Program was being prepared and to solicit input on the scope and content of the document. The NOP and responses to the NOP are included in Appendix A of this Draft EIR.

This Draft EIR is being circulated for public review and comment for a period of 45 days. During this period, comments from the general public as well as organizations and agencies on environmental issues may be submitted to the lead agency. Written comments on the Draft EIR should be mailed or emailed to:

Brian Foss, Planning Director, Nevada County
950 Maidu Avenue, Suite 170
Nevada City, CA 95959
Email: Brian.Foss@nevadacountyca.gov (Subject Line: Broadband Program Draft EIR)
Phone: (530) 265-1222

Upon completion of the public review and comment period, a Final EIR will be prepared that will include both written and oral comments on the Draft EIR received during the public review period, responses to those comments, and any revisions to the Draft EIR made in response to public comments. The Draft EIR and responses to comments volume will comprise the Final EIR for the project.

Before adopting the Nevada County Broadband Program, the lead agency, is required to certify that the EIR has been completed in compliance with CEQA, that the decision-making body reviewed and considered the information in the EIR, and that the EIR reflects the independent judgment of the lead agency.

1.5 DRAFT EIR ORGANIZATION

This Draft EIR is organized into chapters, as identified and briefly described below. Chapters are further divided into sections (e.g., Chapter 3, "Environmental Impacts and Mitigation Measures," and Section 3.2, "Aesthetics"):

- The "Executive Summary": This chapter introduces the proposed program; provides a summary of the environmental review process, effects found not to be significant, and key environmental issues; and lists significant impacts and mitigation measures to reduce significant impacts to less-than-significant levels.
- Chapter 1, "Introduction": This chapter provides a description of the lead and responsible agencies, the legal authority and purpose for the document, and the public review process.
- Chapter 2, "Project Description": This chapter describes the location, background, and goals and objectives for the program, and describes the project elements in detail.
- Chapter 3, "Environmental Impacts and Mitigation Measures": The sections within this chapter evaluate the expected environmental impacts generated by the program, arranged by subject area (e.g., Biological Resources, Hydrology and Water Quality). Within each subsection of Chapter 3, the regulatory background, existing conditions, analysis methodology, and thresholds of significance are described. The anticipated changes to the existing conditions after development of the project are then evaluated for each subject area. For any significant or potentially significant impact that would result from project implementation, mitigation measures are presented and the level of impact significance after mitigation is identified. Environmental impacts are numbered sequentially within each section (e.g., Impact 3.2-1, Impact 3.2-2, etc.). Any required mitigation measures are numbered to correspond to the impact numbering; therefore, the mitigation measure for Impact 3.2-2 would be Mitigation Measure 3.2-2. Each resource section also includes analysis of potential cumulative projects of the program together with other past, present, and probable future projects.
- Chapter 4, "Alternatives": This chapter evaluates alternatives to the program, including alternatives considered but eliminated from further consideration, the No Project Alternative, and two alternative development options. The environmentally superior alternative is identified.
- Chapter 5, "Other CEQA-Mandated Sections": This chapter evaluates growth-inducing impacts and irreversible and irretrievable commitment of resources and discloses any significant and unavoidable adverse impacts.
- Chapter 6, "Report Preparers": This chapter identifies the preparers of the document.
- Chapter 7, "References": This chapter identifies the organizations and persons consulted during preparation of this Draft EIR and the documents and individuals used as sources for the analysis.

1.6 STANDARD TERMINOLOGY USED IN THE DRAFT EIR

This Draft EIR uses the following standard terminology:

- "No impact" means no change from existing conditions (no mitigation is needed).
- "Less-than-significant impact" means no substantial adverse change in the physical environment (no mitigation is needed).
- "Potentially significant impact" means an impact that might cause a substantial adverse change in the environment (mitigation is recommended because potentially significant impacts are treated as significant).
- "Significant impact" means an impact that would cause a substantial adverse change in the physical environment (mitigation is recommended).
- "Significant and unavoidable impact" means an impact that would cause a substantial adverse change in the physical environment and that cannot be avoided, even with the implementation of all feasible mitigation.

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2 PROJECT DESCRIPTION

As lead agency, Nevada County (County) is proposing the Nevada County Broadband Program (proposed program) (i.e., proposed project for the purposes of CEQA), a program to expand access to broadband technology throughout the county, including unincorporated areas and the three incorporated cities: City of Grass Valley, Nevada City, and the Town of Truckee. Installation of fiber optic line by a variety of potential methods (e.g., underground via directional bore and trenching, microtrenching, aerial installation) is evaluated at a programmatic level throughout the county as a whole.

The objective of this environmental impact report (EIR) is to achieve compliance with CEQA for the program (i.e., countywide program) in advance such that individual fiber projects can take advantage of state and federal grant funding programs.

2.1 PROJECT BACKGROUND AND NEED

Broadband provides high speed internet access via multiple types of technologies, including fiber optics, wireless, cable, digital subscriber line (DSL), and satellite. While some areas of Nevada County have sufficient internet speeds for daily work and home life, there are still large portions of the county with no coverage or coverage so slow that use of the internet has become prohibitive to perform daily, essential tasks.

The ability to provide broadband internet in Nevada County has been challenging for several reasons. Primarily, the topography and geography of the county present barriers to broadband connectivity. Subsurface rock throughout the county is difficult and expensive to trench and dense forests, hills, and canyons obstruct the lines-of-sight needed for wireless technology. Also, the rural nature of the county does not support the population density needed to show sufficient returns on investment for some broadband project investors.

Since 2000, Nevada County has played an active role in promoting increased local broadband coverage. Some of the actions and policies that have been implemented to support broadband service and infrastructure include:

- providing grants to fund broadband projects implemented by local internet service providers;
- approving road standards to support an open trench "Dig Once" policy, which maximizes the potential for broadband to be included in any open trench construction activity taking place in the unincorporated county;
- approving the Nevada County Broadband Strategy Plan—a plan created by the Sierra Business Council that outlines various strategies for how broadband can be improved and expanded across the county; and
- approving the Last-Mile Broadband Grant—a pilot program to leverage county funds to support the development of Last-Mile Broadband infrastructure in the unincorporated areas of the county to promote economic development. Last-Mile refers to connecting the end-user or customer's home or business to a local network provider. The development of Last-Mile transmission networks is the most cost-prohibitive component of broadband expansion in Nevada County.

Expansion of broadband service and infrastructure is vital to the communities in Nevada County for many reasons, which include:

- building social and community connections,
- civic engagement and participation,
- economic development and sustainability,
- education and continuous learning,
- health care and tele-health services, and
- recreation and entertainment.

2.2 PROJECT OBJECTIVES

The objectives of the program are to:

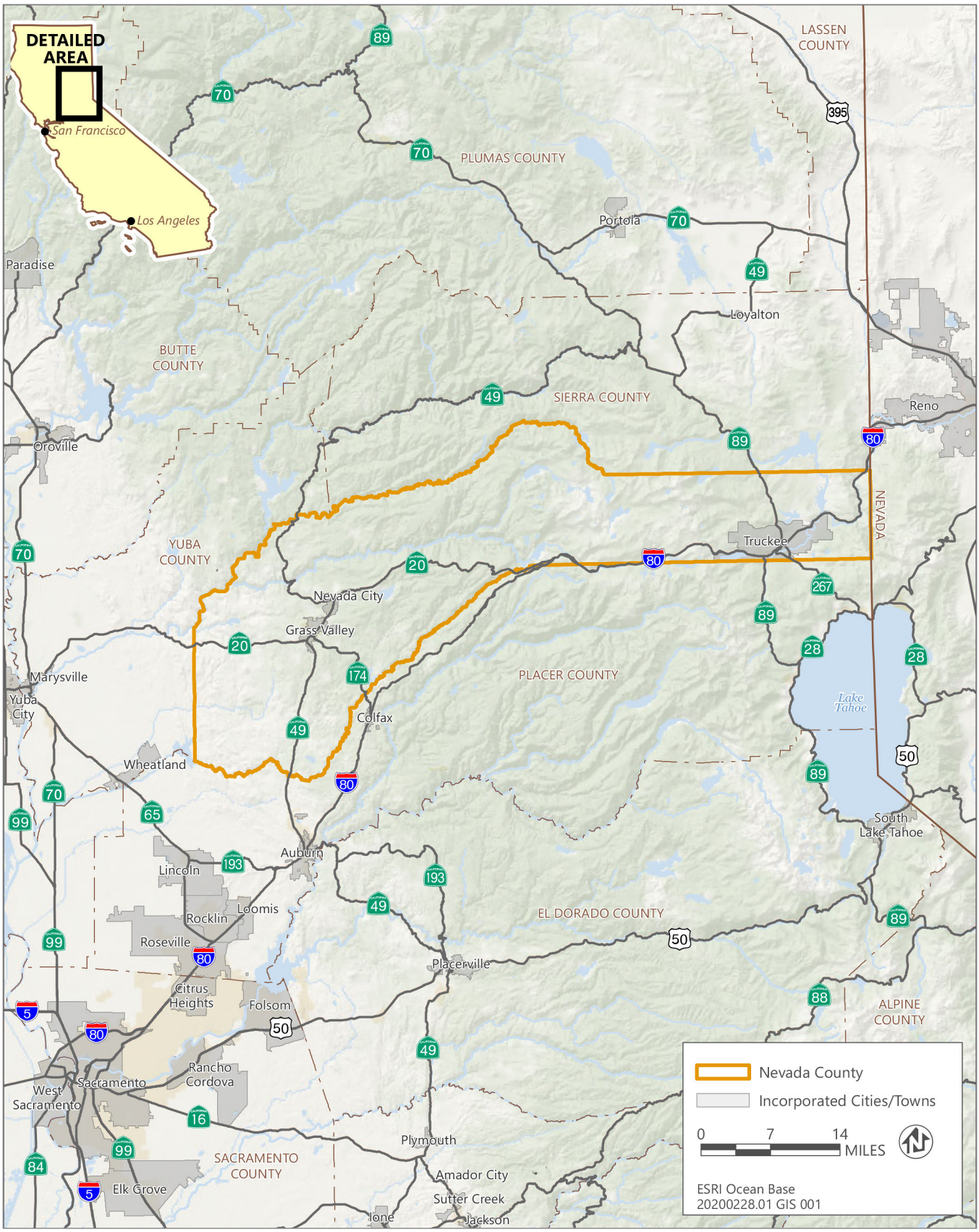
- provide upgradable and expandable high-speed broadband capacity in the service areas with minimum speeds of 25 megabits per second (Mbps) for downloads and 5 Mbps for uploads, consistent with the federal definition of "adequate service" for broadband and California's definition of broadband;
- provide a wireless broadband network in unserved and underserved areas of Nevada County;
- enable an increase in telecommuting, with a commensurate decrease in vehicle miles traveled;
- provide broadband infrastructure to support future statewide interconnection of major public safety answering points and a future statewide public safety network;
- enable connection of health facilities in the county through the California Telehealth Network;
- streamline the environmental review process for individual broadband projects that are implemented in the county;
- provide a reliable foundation of data and acceptable methodology to assess impacts for any specific broadband deployment project;
- identify known environmental and cultural assets to be protected and/or restored with an approved set of preservation measures and/or mitigations; and
- save time and money for both the county of Nevada and broadband project applicants, resulting in greater government and economic efficiencies, reducing the amount of county staff time required to review broadband projects and avoiding duplication of applicant costs.

2.3 PROJECT LOCATION

The program area extends throughout much of Nevada County, located in the Sierra Nevada and foothills, approximately 30 miles northeast of Sacramento at its closest approach (Figure 2-1). The area in which future individual broadband projects could be implemented includes unincorporated areas of the county, City of Grass Valley, Nevada City, and Town of Truckee (Figure 2-2); it excludes federal lands and state highway rights-of-way (ROW). Unincorporated areas expected to be served by future broadband projects include the Donner Pass Road area (including the Serene Lakes area), Kingvale, Soda Springs, Cisco Grove, Washington, and other small communities. The exact alignments of future broadband projects are unknown at this time and would be based on such considerations as construction feasibility, local preference, and locations of sensitive environmental resources. The fiber optic lines would generally be installed underground following public or private roadways throughout the county with the intention to minimize or avoid disturbance of roadway surfaces where feasible; however, it is possible some fiber optic line could be installed directly under roadways in areas with limited shoulder space or where existing conduit under the road may be used, avoiding new surface disturbance.

Where fiber optic line installation would occur within public and private roads, construction activities would occur between the roadway centerline and up to 10 feet from the roadway edge. Roadway widths vary greatly throughout the county; widths are generally based on the purpose of the roadway and number of travel and turn lanes. For the purposes of analysis, the maximum distance from the roadway centerline where fiber optic line installation could occur is assumed to be up to 85 feet, based on the typical size of a multi-lane roadway and County of Nevada *Standard Drawings* (County of Nevada 2020) for roadways. Individual fiber project sites would be surveyed for the presence of utilities and marked for avoidance during construction activities.

The program area would also include those areas where lateral lines could be installed between public or private roadways and individual businesses or residences. Where subsurface installation of fiber optic line is infeasible, aerial installation on new or existing poles would occur.



Sources: Adapted by Ascent in 2021.

Figure 2-1 Regional Location

The program could develop approximately 2,230 miles of fiber-based infrastructure along public and private roads, defined to include:

- public roads within County ROW that are maintained by the County and open to all;
- public roads within City or Town ROW that are maintained by the City/Town and open to all;
- public roads with minimal easements (i.e., prescriptive road easements that end at edge of road pavement; little to no easements outside of traveled roadway);
- private roads maintained by a private road division (i.e., homeowners pay into a fund for County to maintain road but not considered a public road);
- private roads within private easements that are maintained by private road associations/homeowner's associations;
- private roads within private easements that have no maintenance in place; and
- private roads that meander outside of established private easements.

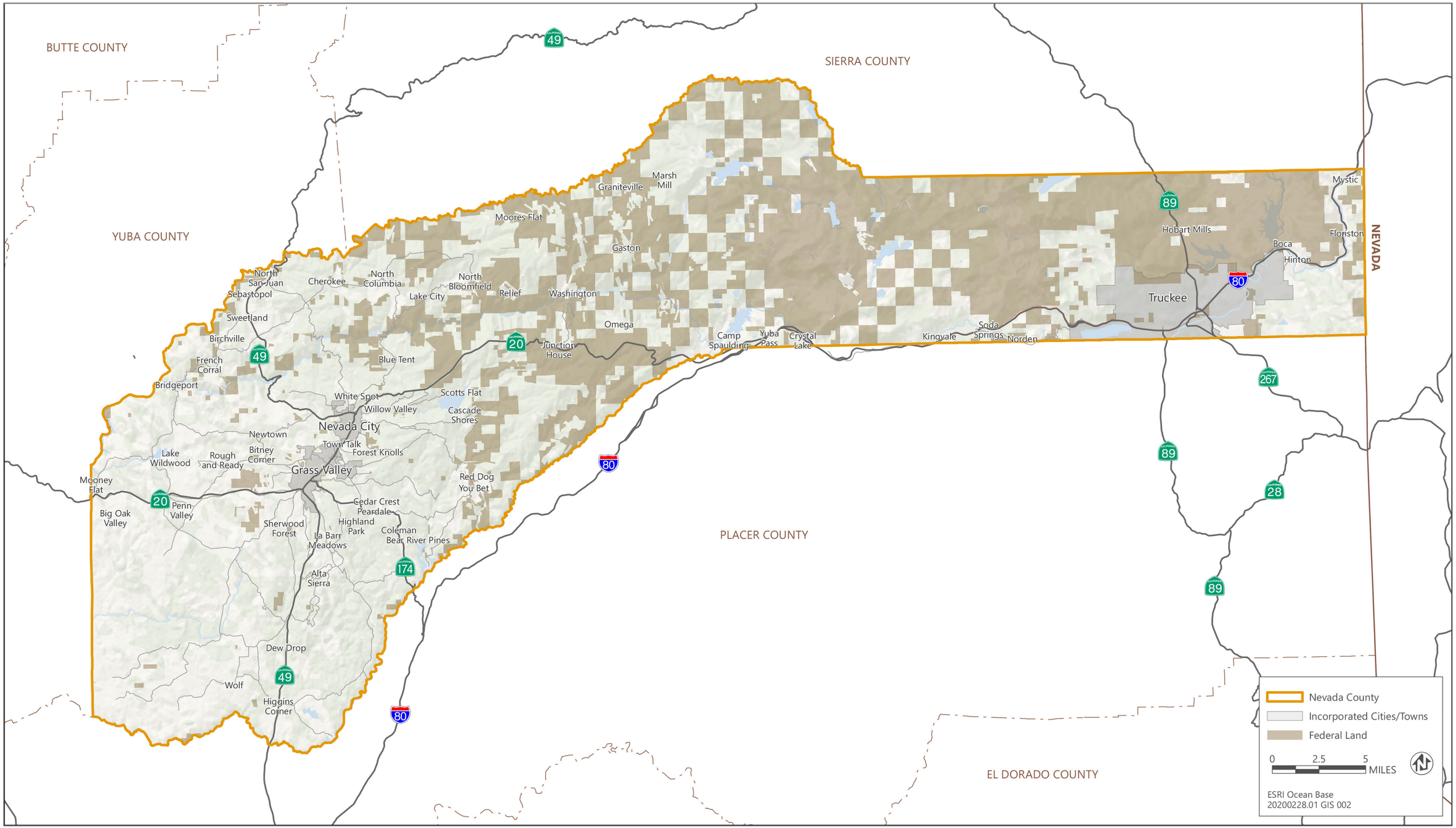
The program area excludes state highways and roads on federal lands.

Fiber optic line would also be installed to provide aboveground or underground lateral connections to private residences and businesses. The specific locations of the business or residence lateral fiber optic line are not identified at this time and the lengths of lateral lines to be installed from the primary fiber optic line in public or private roadways would vary. Individual residence or business connections typically would be located in previously disturbed and/or developed areas (e.g., adjacent to driveways or in landscaped areas), and generally would avoid drainages and sensitive habitats. The fiber optic line alignment would typically follow other utility installations, such as electrical, but at a shallower depth to avoid conflicts with existing utilities; therefore, it is likely that the ground has been previously disturbed. Additionally, many of these connections would generally follow the route of the driveway, particularly if the applicable lot has other issues that could affect access, such as trees or landscape features that should not be disturbed.

This EIR conservatively assumes that new ground disturbance would be required for the entire program; however, there would be potential for utilizing existing conduit where only installation of fiber optic line would be required. The new infrastructure constructed under the program would connect to existing broadband infrastructure (e.g., aboveground and belowground fiber optic line, cell towers) in the program area supported by existing service providers (e.g., Comcast, Race, Sudden Link).

2.3.1 Existing Facilities and Connection to Existing Facilities

Centralized network management facilities would be located at existing network operations centers. These facilities provide system redundancy and would each be capable of jointly or individually managing facilities across the entire network should any facility become unavailable as a result of unforeseen circumstances or disasters. Fixed wireless access would be provided to unserved and underserved rural areas of the county.



Source: Adapted by Ascent in 2021.

Figure 2-2 Program Area

2.3.2 Proposed Facilities

NEW FIBER CONDUIT

The program would install new fiber conduit and fiber optic line within public and private roadways and up to 10 feet from the edge of the road. New fiber optic line would be installed in existing conduit in some locations, which would not involve substantial new ground disturbance. Fiber optic conduit could also be installed to provide lateral connections to residences and businesses and under roadways where space is limited alongside the roadways. In new conduit construction, two conduits with microducts (smaller diameter conduits within a larger conduit) would be installed approximately 48 inches below the ground surface. The conduits would include 1.25-inch-diameter and 2-inch standard dimension ratio polyethylene pipe. Microtrenching would also occur under the program, which would place conduit generally between 12 and 26 inches belowground. Access for maintenance purposes to the new conduits would be provided by installing access boxes (vaults) at intervals of not more than 3,000 feet along a route for an individual fiber project. Vaults are sized to accommodate pulling fiber through conduits. The general dimensions for each access vault would be 17 inches by 30 inches, 36 inches by 60 inches, or 24 inches by 36 inches, and would extend to 48 inches belowground surface.

ABOVEGROUND POLES

Where topography or underground substrate would prohibit or impede subsurface fiber optic installation, individual fiber projects would install aboveground fiber optic line that would utilize existing or newly constructed utility poles.

2.4 PROJECT CONSTRUCTION

2.4.1 Construction Schedule

Construction of individual fiber projects under the program (i.e., Nevada County Broadband Program) would begin as early as spring 2023. In general, for 1 mile of underground fiber optic conduit, boring activities would take an estimated average of 10 days and trenching would take an estimated average of 18-20 days. Implementation of future individual fiber projects under the program would occur over many years. It is possible that multiple, individual fiber projects could have overlapping construction timeframes. Additionally, any individual segment could involve multiple construction crews working simultaneously, with plowing, trenching, and directional drilling occurring at the same time in different locations of the segment. For the purposes of analysis, it is assumed that up to five individual fiber projects could be implemented at one time. Construction activities would typically occur between 7:00 a.m. and 6:00 p.m. on weekdays (or within the most restrictive hours for noise control purposes that may vary by jurisdiction). Some construction activities could occur on Saturdays. No construction activities would occur at night. The average daily crew size required to complete an individual aboveground fiber project would be three crewmembers and the crew size required for an underground fiber project would be five crewmembers.

2.4.2 Construction Methods

The various construction methods that could be used to construct individual fiber projects are described below. The construction method used for a given project would be determined based on the location, site conditions, and constraints that may be present at an individual project site (e.g., size of road shoulder, water crossing, sensitive habitat, cultural resources, locations of existing buried utilities). The estimated maximum width of ground disturbance would be 10 feet. The width of disturbance for microtrenching would be approximately 1-4 inches. In the program area, trees and other vegetation may be growing in road shoulders or otherwise along individual fiber alignments that could interfere with construction and would require removal. Typical hazardous materials (e.g., gasoline, oils,

solvents) would be used during construction activities. If any existing wood utility poles are removed to accommodate installation, the poles would be properly disposed of as treated wood waste. For construction activities involving excavation, the excavated material would be re-used as fill material. In some cases, new fill material could be needed, and the specific amount would depend on the type and location of the construction activities.

The following describes the construction methods that would be used to install fiber optic lines.

HORIZONTAL DIRECTIONAL DRILLING

Horizontal directional drilling (boring) allows new conduit to be installed to the desired depth with minimal surface disturbance along the alignment. Bore entry and exit pits measuring approximately 2 feet by 6 feet and 3 to 5 feet deep would be excavated by a backhoe. A horizontal directional bore machine would drill an approximately 4-inch-wide horizontal pilot hole along the designed alignment and at a depth of 3 to 5 feet below the ground surface. Typical boring depths would be up to 12 feet, depending on subsurface conditions and the need to avoid conflicts with existing utilities beneath street intersections. Under some circumstances or to accommodate a local jurisdiction's preference, the conduit may be installed by cutting pavement, excavating a narrow trench, and backfilling and repaving the cut pavement.

Typically, the bore rig would drill towards the preceding buried access vaults, then the bore rig would be turned in the opposite direction and drilled to the succeeding access point (i.e., drilled from opposite directions to meet in the middle). Once the pilot bore string reaches its receiving pit, the conduit would be attached to the end. The pilot pipe would then be pulled back to the bore machine thereby installing the conduit. The conduits would be spliced together, or an access vault would be installed. The typical bore lengths would be approximately 700 feet.

A temporary work area of approximately 20 by 40 feet would be needed at the bore entry and exit pit locations to accommodate the bore rig, to allow for connection of the conduits and for the installation of access vaults. These temporary work areas would generally be sited within previously disturbed areas and would not require site preparation/grading. The excavation area would be 2 feet by 6 feet, as described above, but some temporary surface disturbance beyond that could occur from vehicle maneuvering and workers. Water trucks are generally not required for dust suppression because horizontal directional drilling, the only activity that would involve appreciable soil excavation and stockpiles, would use directional bore rigs that have water on board that would be used for dust control, if necessary.

The bore rig would use a mixture of water and fine clay (usually bentonite) to help lubricate the pilot pipe and keep the hole drilled open. The water and clay would be mixed on-site in a mixer attached to or as part of the bore rig. Earth cuttings from the bore hole and the water/clay mixture returns to the bore entry pit where it would be pumped into a receiving tank. The mixture would be filtered for reuse if possible or stored in a tank until it could be discarded in a local landfill approved to receive the material. Drilling fluid is classified as non-toxic and can be disposed of accordingly. In areas of hard rock, the boring machine may use air and/or foam instead of drilling fluid.

Excavated or disturbed soil would 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. All stockpiled material would be covered or contained in such a way that eliminates off-site sediment runoff from occurring. Upon completion of construction activities, excavated soil would be replaced.

Directional Drilling at Streams or Rivers

Directional drilling beneath streams or rivers may also be used to avoid sensitive resources. Directional drilling operations would typically range from 25 to 1,500 feet in length. Trenching, boring, or plowing would not go through any streams, rivers, or other waters of the US or State.

The depth of a bore would be at least 15 feet below the sensitive resource being avoided, including streambed alluvium; the depth may be greater than 15 feet based on site-specific conditions and recommendations from regulatory agencies. Stream crossing origination and completion points would be a minimum of 100 feet from the edge of a waterway; the points could be sited closer with an approved Management Plan prepared pursuant to

Nevada County Code Sections L-II 4.3.4.C and L-II 4.3.17, which includes specifications for compliance with applicable requirements of the US Fish and Wildlife Service, US Army Corps of Engineers, and California Department of Fish and Wildlife. Equipment used for directional drilling would vary based on the particular needs of the site and the contractor's preferences, but generally would include a drilling rig with fluid management systems and a drill pipe. In most cases fiber optic line would cross streams and rivers by directional drilling beneath the stream if aerial stringing of conduit on a bridge was not an option.

Frac-out

Frac-out, or inadvertent return of drilling lubricant, is a potential concern when boring is used under sensitive habitats and waterways. While bentonite is non-toxic, aquatic plants and fish and their eggs can be smothered by the fine particles if it were discharged to waterways. The risk of impact would be limited to waterways where water is present at the time a bore is drilled under the feature.

Best practices include having a spotter monitoring the water upstream and downstream of the drilling operation. Frac-out is also avoided by controlling pressure during boring and watching for flow out of exit pits. Boring is stopped and inspected if the exit pit pressure or flow drops. In the event any change in water occurs, the monitor downstream of the operation would stop drilling and confirm with the monitor up-stream of the operation whether the water has changed for a reason other than drilling.

Directional Drilling at Railroads and State Highways

The program area intersects with several major highways (State Route [SR] 20, SR 49, and I-80); thus, railroads or state highways could be crossed by fiber optic line. In instances where a railroad alignment or state highway would be crossed, directional drilling would occur below the railroad tracks or highway, at a minimum of 18 feet below the base of the centerline of the tracks or highway. Directional drilling would originate and terminate in the program area, outside of the railroad ROW or state highway ROW. Fiber optic line would not be placed within any railroad or state highway ROW as part of the proposed program.

PLOWING

In unpaved areas, conduits could be installed using a plowing technique, in which a vibratory cable plow incises the soil to a depth of 48 inches below the ground surface and the conduits are placed in the incised slit at the same time. To accomplish this, as the single-tine vibratory cable plow parts the soil to lay the conduit, the conduits are laid down through a shaft attached to the plow, and then the soil reconsolidates immediately behind the plow. Plowing is generally performed using a tracked vehicle (i.e., bulldozer). The disturbance caused by the plow is typically restored within 2 days as part of the cleanup process.

In stable soils, the machines leave a track in the vegetation similar to, but wider than, a road vehicle. In wet or soft conditions, this disturbance may be great enough to require more extensive grading and reseeding to restore the area. When wet, soft, or restricted areas are anticipated, a "Spider Plow" may be used. This equipment has been specially developed for these conditions and causes much less disturbance because it runs on oversized rubber tires and is lower in weight.

TRENCHING

In areas where conditions are unsuitable for plowing (for example, if the soil matrix is characterized by a high density of rocks greater than 6 inches in diameter, or where existing underground infrastructure prohibits plowing) trenching would be needed to install the conduits. To create the conduit trench, a backhoe or other equipment is used to open a trench generally ranging from 9 to 18 inches wide and 48 inches deep. The conduit would be placed at the bottom of the trench, and the trench would be backfilled and compacted using trenching spoils, imported fill material or sand slurry as required. The trench is typically refilled the same day that it is created, and if a trench is left open at the end of the workday it is covered in accordance with standard best management practices.

In areas where the right-of-way or shoulder is very narrow or where sensitive biological or cultural resources must be avoided, trenches can be cut into paved areas and the conduits installed below the pavement. In such circumstances, the trench would be backfilled with slurry to ensure proper compaction and pavement integrity.

MICROTRENCHING

Future broadband projects could be installed using microtrenching for installation of subsurface pipe or conduit. Microtrenching could be used in paved areas or sidewalks. A microtrench is a narrow open excavation trench that would generally be 1 to 4 inches wide and 12 to 26 inches deep. A tractor with a microtrenching cutting blade or trencher would cut into pavement or a sidewalk. As trenching occurs, excavated material is collected by a vacuum excavator connected to the tractor or trencher. The microtrench would be backfilled with either a slurry or cement and a grout, epoxy, or other sealer.

INSTALLATION OF FIBER OPTIC LINE INTO CONDUIT

Once the conduit system is installed, the fiber optic line or microducts would be pulled or blown into the conduits in new or existing conduit. The installation would be accomplished using compressed air or a series of hydraulic pullers consisting of a main-line puller and sufficient intermediate assist pullers to ensure smooth pulling within specified tension restrictions. First, the pull line would be attached to a plug that is pushed through the conduit by air pressure. When the plug emerges at the end of the conduit section or access point, the pull line would be attached to the line through a swivel to prevent the line from twisting during the pulling operation. Then the pull line would be pulled back though the conduit section, threading the line through the conduit. The main-line puller would be equipped with a tension limiter and a tension monitor to provide an accurate record of actual pulling tensions encountered.

These methods would be used to pull the line from one handhole to the next. If there is damage to the conduit, it may be necessary to excavate temporary assist points to facilitate fiber installation. These could be required for a small number of the vaults. In such cases, an excavation approximately 2 feet wide, 3 feet long, and 3 feet deep would be dug to provide access to the conduit and would be backfilled once the line is installed.

Installation of fiber into existing conduits using these methods would not require any new ground disturbance—only access to existing buried vaults—and would require two vehicles and an air compressor.

INSTALLATION OF ACCESS VAULTS

To allow for fiber optic line-placing assist locations, fiber optic line splice locations, and future access to the buried conduits and line, access vaults (also known as handholes, pull boxes, and splice boxes) would be placed along the alignment. Once installation is complete, the vaults would be accessed only rarely for maintenance or line replacement. Each vault would typically house 80 to 100 feet of line slack.

Each access vault would be equipped with a traffic-bearing cover, even if it would be out of the path of traffic. The cover may be visible at the surface or may be buried just below the surface. Generally, road shoulders or other easily accessible areas are the preferred locations for vaults. A vault would be necessary at the beginning and end points, with intermediate vaults being placed within the alignment at typical intervals of approximately 1,000 to 1,500 feet for the laterals and 700 feet for the rest of the alignment; intervals would be spaced at no more than 3,000 feet along a route for an individual fiber project. These vaults would be installed as the final step in the horizontal directional drill process and installed in the same excavations that would be created as drill entry and exit points. No additional ground disturbance would be required for the vaults.

Access vaults would typically be installed at midblock locations under the shoulder or under existing sidewalks.

SPLICING OF FIBER OPTIC LINE ENDS AT ACCESS VAULTS

The reels of fiber optic line would be spliced where necessary at access vaults. Appropriate lengths of excess (slack loop) fiber optic line—generally at least 30 feet—would be left at all splice locations to allow for line expansion and contraction due to temperature and for any splicing required in the future. The line would be spliced in splice cases (i.e., protective encasements) in a line, with sufficient slack allowed. The splices would be made with a profile alignment fusion splicing machine and protected by heat-shrink tubing.

AERIAL STRINGING

Utility Poles

In areas where trenching would be difficult for placing fiber optic line underground (e.g., rocky areas) and areas characterized by extreme topography (e.g., steep slopes, water crossings), fiber optic installation would occur using existing utility poles and/or new poles could be installed for aerial stringing of fiber optic line. New poles would be approximately 50 to 100 feet tall and spaced approximately 300 feet apart. The diameter of the poles would generally range from 15 to 19 inches at the base for aboveground poles. Poles would generally be buried 7 to 10 feet deep, depending on height. Guy wires may be connected to the poles in areas that need additional stability.

Self-supporting poles may be used where use of guy wires is infeasible (e.g., where there are existing structures next to the site) or where conditions prohibit adequate burial of the pole base. Self-supporting poles would be mounted on concrete foundations, each of which would typically be 3 to 6 feet in diameter. These foundations typically extend above the ground surface to a height of 6 to 12 inches, but there could be site-specific circumstances where up to 2 feet of height would be required. The diameter of the foundation for self-supporting poles could be as much as 4.5 feet if they are attached to concrete foundations.

Bridges

For large streams or rivers, conduit may be installed on existing bridges for the purposes of avoidance of sensitive environmental resources. The aerial stringing may be accomplished with conduit attachment to bridges using a 4- to 6-inch galvanized iron pipe attached beneath or to the side of the bridge, depending on the age and condition of the bridge and the preferences of the agency with jurisdiction.

2.4.3 Preconstruction Activities

Prior to construction, the proponents of individual fiber projects would develop and implement a Worker Environmental Awareness Program (WEAP) to educate workers about sensitive biological and cultural resources occurring in and near the project areas for individual fiber projects as well as the potential for contamination in key areas. All field staff, including employees, contractors, and subcontractors who would work on the project site during construction would be required to participate in the WEAP program. The WEAP would be specific to the appropriate segment of the route and would inform workers about the locations and types of sensitive biological, cultural, and hazardous material resources potentially occurring in or near the route and about policies, mitigation measures, and other protective features adopted as conditions of project approval (e.g., no ground-disturbing activities within 100 feet of sensitive biological resources) to avoid impacts to those resources. For hazardous materials, personnel would be informed that the Nevada County Environmental Health Department shall be alerted to any suspected contamination. Staff would be informed of procedures for proper handling and disposal of hazardous wastes excavated in the construction process established by federal, state, and local regulations.

2.4.4 Surface Restoration

Site cleanup and surface restoration under the program would be performed promptly following conduit and line installation. Cleanup would include removing debris and restoring original surfacing and contours. Any disturbed areas would be returned to their original or better condition by replacing all asphalt, landscaping, or any earthen areas.

2.4.5 Construction Staging Areas and Equipment

CONSTRUCTION STAGING AREAS

Staging areas would be established along public and private roadways or other existing disturbed areas along construction routes in the program area and would generally not exceed areas greater than approximately 200 feet by 200 feet. If it is not possible to locate staging areas along roadways due to narrow roads or other constraints, the contractor would locate staging areas and equipment lay-down areas and storage areas in paved or graveled yards or other existing disturbed areas as close to the construction areas as possible. The exact locations of construction staging areas and equipment lay-down areas have not been determined and would be identified as part of the final construction plans for each individual fiber project implemented under the broadband program. Locations would be selected by construction companies that would be awarded contracts for construction of individual segments. Crews would be mobilized from staging areas with no refueling occurring in the field. Any construction work, including use of staging areas, within county or incorporated city or town ROWs would be required to obtain an encroachment permit from the applicable jurisdiction.

All construction activity conducted along roadways would employ standard traffic control measures documented in a Traffic Control Plan submitted for review and approval by the Nevada County Public Works Department or the appropriate City or Town department for work within the limits of an incorporated jurisdiction.

CONSTRUCTION VEHICLES AND EQUIPMENT

The types of construction vehicles and equipment that would be used during construction of individual fiber projects would vary depending on the type of installation occurring at any given location. In general, there would be five different construction activity types that could be conducted along each segment: trenching, directional drilling, fiber blowing, aerial fiber installation, and fiber splicing. The types of equipment that would be used include pickup/utility trucks, plows, trenchers, jackhammers, cutting blades, excavators with a rock saw or rock breaker, dump trucks, backhoes, boring rigs, and bucket trucks (for aerial installation). It is assumed that all locations of fiber installation are accessible by trucks and other construction equipment and that helicopter use would not be required. The types of equipment needed for a given project would vary depending on construction methods and site conditions. The following identifies the potential types of construction equipment that could be used for each construction activity type:

- Directional Drilling
  - pick-up/utility trucks
  - boring rig
  - backhoes
- Plowing
  - vibratory cable plow
  - bulldozer
  - spider plow
- Trenching
  - pick-up/utility trucks
  - cable plows
  - trenchers
  - excavators/rock saw/crusher
  - dump trucks
  - backhoes
  - jackhammer
  - cutting blades
- Microtrenching
  - tractor
  - cutting blades
  - trencher
  - vacuum excavator
- Fiber Blowing
  - pick-up/utility trucks
  - air compressor
  - backhoes
- Fiber Splicing
  - pick-up/utility truck
- Aerial Stringing
  - pick-up/utility and bucket trucks
  - line truck with an auger and tamper
  - tracked equipment with an auger and tamper
  - mini excavator
  - backhoe

2.5 PROJECT OPERATIONS

Operational activities for any individual fiber project implemented under the program would be limited to routine maintenance to check the vaults that access the fiber optic line.

2.6 POTENTIAL PERMITS AND APPROVALS REQUIRED

The following actions would be required by Nevada County as the CEQA lead agency:

- certification of the EIR,
- adoption of a Mitigation Monitoring and Reporting Program, and
- adoption of CEQA findings.

Depending on the project-specific character, location, and construction techniques of future broadband projects, potential permits and approvals that could be required are identified in Table 2-1.

Table 2-1 Potential Permits and Approvals

Agency	Permits or Approvals
US Army Corps of Engineers	Nationwide Permit or Individual Permit under Section 404 of the Clean Water Act
Central Valley Regional Water Quality Control Board	National Pollutant Discharge Elimination Construction General Permit Section 401 water quality certification or a waiver of discharge requirements
Lahontan Regional Water Quality Control Board	National Pollutant Discharge Elimination Construction General Permit Section 401 water quality certification or a waiver of discharge requirements
California Department of Fish and Wildlife	Lake and streambed alteration agreement p Section 1602 of the Fish and Game Code
California Department of Transportation	Encroachment permit
Nevada County	Use permits, management plans, grading, and/or encroachment permits
City of Grass Valley	Use permits, grading, and/or encroachment permits
Nevada City	Use permits, grading, and/or encroachment permits
Town of Truckee	Use permits, grading, and/or encroachment permits

Source: Adapted by Ascent Environmental in 2022.

2.7 INDIVIDUAL FIBER PROJECT REVIEW PROCESS

Individual fiber projects that would be developed and implemented under the proposed program would be evaluated using a checklist developed by the County to document the evaluation of the individual project site and activities to determine whether or not it is a later activity within the scope of the analysis in this EIR (State CEQA Guidelines Section 15168[c]). If the activities are determined to be within the scope of the EIR, the applicable lead agency (determined by location of the individual fiber project) may approve the activities using this EIR without an additional environmental document (in accordance with Section 15168 of the State CEQA Guidelines for program EIRs). If a later activity would have effects that were not examined in this EIR, a new initial study would be prepared to determine whether the new impact would require preparation of an EIR, negative declaration, or a mitigated negative declaration. That later analysis may tier from the program EIR as provided in State CEQA Guidelines Section 15152. Individual fiber projects could also require permits or approvals from other state, regional, or local agencies as listed in Section 2.6, "Potential Permits and Approvals Required."

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3 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

3.1 APPROACH TO THE ENVIRONMENTAL ANALYSIS

3.1.1 Overview

This draft environmental impact report (Draft EIR) evaluates and discloses the environmental impacts associated with the Nevada County Broadband Program, in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000, et seq.) and the State CEQA Guidelines (California Code of Regulation, Title 14, Chapter 3, Section 1500, et seq.). Sections 3.2 through 3.10 of this Draft EIR present a discussion of regulatory background, existing conditions, environmental impacts associated with construction and operation of the fiber installation projects that will be implemented pursuant to the program, mitigation measures to reduce the level of impact, and residual level of significance (i.e., after application of mitigation). Issues evaluated in these sections consist of the environmental topics identified for review in the Notice of Preparation (NOP) prepared for the program (see Appendix A of this Draft EIR). Section 3.1.2, "Cumulative Impacts," presents an analysis of the program's impacts considered together with other past, present, and probable future projects producing related impacts, as required by Section 15130 of the State CEQA Guidelines. Chapter 4, "Alternatives," presents a reasonable range of alternatives and evaluates the environmental effects of those alternatives relative to the proposed program, as required by Section 15126.6 of the State CEQA Guidelines. Chapter 5, "Other CEQA-Mandated Sections," includes an analysis of the program's growth-inducing impacts, as required by Section 21100(b)(5) of CEQA.

Sections 3.2 through 3.10 of this Draft EIR each include the following components.

Regulatory Setting: This subsection presents information on the laws, regulations, plans, and policies that relate to the issue area being discussed. Regulations originating from the federal, state, and local levels are each discussed as appropriate.

Environmental Setting: This subsection presents the existing environmental conditions in the program area, in accordance with State CEQA Guidelines Section 15125. The discussions of the environmental setting focus on information relevant to the issue under evaluation. The extent of the environmental setting area evaluated (the program area) differs among resources, depending on the locations where impacts would be expected. For example, air quality impacts are assessed for the applicable air basin, whereas hazardous materials impacts are assessed for the program area only.

Environmental Impacts and Mitigation Measures: This subsection presents thresholds of significance and discusses potentially significant effects on the existing environment, including the environment beyond the individual fiber project boundaries, in accordance with State CEQA Guidelines Section 15126.2. The methodology for impact analysis is described. Thresholds of significance are defined and thresholds for which the program would have no impact are disclosed and dismissed from further evaluation. Program impacts and mitigation measures are numbered sequentially in each subsection (Impact 3.2-1, Impact 3.2-2, Impact 3.2-3, etc.). A summary impact statement precedes a more detailed discussion of the environmental impact. The discussion includes the analysis, rationale, and substantial evidence upon which conclusions are drawn. The determination of level of significance of the impact is defined in bold text. A "less-than-significant" impact is one that would not result in a substantial adverse change in the physical environment. A "potentially significant" impact or "significant" impact is one that would or could result in a substantial adverse change in the physical environment; both are treated the same under CEQA in terms of procedural requirements and the need to identify feasible mitigation. Feasible mitigation measures are identified to avoid, minimize, rectify, reduce, or compensate for significant or potentially significant impacts, in accordance with State CEQA Guidelines Section 15126.4. Unless otherwise noted, the mitigation measures presented are recommended in the EIR for consideration by the County to adopt as conditions of approval.

Where an existing law, regulation, or permit specifies mandatory and prescriptive actions about how to fulfill the regulatory requirement as part of the project definition, leaving little discretion in its implementation, and would avoid an impact or maintain it at a less-than-significant level, the environmental protection afforded by the regulation is considered before determining impact significance. Where existing laws or regulations specify a mandatory permit process for future projects, performance standards without prescriptive actions to accomplish them, or other requirements that allow substantial discretion in how they are accomplished, or have a substantial compensatory component, the level of significance is determined before applying the influence of the regulatory requirements. In this circumstance, the impact would be potentially significant or significant, and the regulatory requirements would be included as a mitigation measure.

This subsection also describes whether mitigation measures would reduce program impacts to less-than-significant levels. Significant-and-unavoidable impacts are identified as appropriate in accordance with State CEQA Guidelines Section 15126.2(b). Significant-and-unavoidable impacts are also summarized in Chapter 5, "Other CEQA-Mandated Sections."

Cumulative Impacts: This subsection presents an analysis of the program's impacts considered together with other past, present, and probable future projects producing related impacts, as required by Section 15130 of the State CEQA Guidelines.

References: The full references associated with the parenthetical references found throughout Sections 3.1 through 3.10 can be found in Chapter 7, "References," organized by section number.

3.1.2 Cumulative Impact Analysis

Cumulative impacts are discussed in each resource section (Sections 3.2 through 3.10 of this Draft EIR), following discussions of the program-specific impacts.

CUMULATIVE IMPACT APPROACH

Section 15130(a) of the State CEQA Guidelines requires a discussion of the cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Where a project's incremental effect is not cumulatively considerable, the effect need not be considered significant, but the basis for the conclusion must be briefly described. Cumulatively considerable, as defined in State CEQA Guidelines Section 15065(a)(3), means that the "incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." State CEQA Guidelines Section 15355 defines a cumulative impact as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

State CEQA Guidelines Section 15130 identifies two basic methods for establishing the cumulative environment in which a project is considered: the use of a list of past, present, and probable future projects; or the use of adopted projections from a general plan, other regional planning document, or a certified EIR for such a planning document. The cumulative analyses in this EIR primarily uses the list approach, with some use of the plan approach to describe the cumulative setting for some resource areas (e.g., air quality, greenhouse gas emissions, and transportation). The list approach identifies reasonably foreseeable projects that may contribute to a cumulative effect rather than projections contained in an adopted local, regional or statewide plan, or related planning document. The effects of past and present projects on the environment are reflected by the existing conditions in the program area. Probable future projects are those in the vicinity that have the possibility of interacting with the proposed program to generate a cumulative impact (based on proximity and construction schedule) and either:

- are partially occupied or under construction,
- have received final discretionary approvals,
- have applications accepted as complete by local agencies and are currently undergoing environmental review, or

- are projects that have been discussed publicly by an applicant or that otherwise become known to a local agency and have provided sufficient information about the project to allow at least a general analysis of environmental impacts.

The cumulative list below considers related, reasonably foreseeable projects likely to be constructed simultaneously with construction of individual broadband projects under the proposed program, which would be expected to occur over many years. This time period was selected because it coincides with the timing of the introduction of program impacts (program impacts would generally be associated with construction activities).

3.1.3 Cumulative Setting

GEOGRAPHIC SCOPE

The geographic area that could be affected by the proposed program varies depending on the environmental resource topic. When the effects of the proposed program are considered in combination with those of other past, present, and reasonably foreseeable future projects to identify cumulative impacts, the specific projects considered may also vary depending on the type of environmental effects being assessed. Table 3.1-1 presents the general geographic areas associated with the different resource topics addressed in this analysis.

Table 3.1-1 Geographic Scope of Cumulative Impacts

Resource Topic	Geographic Area
Aesthetics	Program area and surrounding public viewpoints
Archaeological, Historical, and Tribal Cultural Resources	Program area
Biological Resources	Nevada County and beyond, depending on species distribution, habitat requirements, and scope of impact from proposed activities
Geology and Soils	Program area and vicinity
Greenhouse Gas Emissions and Climate Change	Global/statewide
Hazards and Hazardous Materials	Program area and vicinity
Hydrology and Water Quality	Local and regional watersheds
Noise	Program area and immediate vicinity of individual fiber projects where project-generated noise can combine with noise from other sources
Transportation	Regional and local roadways and freeways where the proposed program could contribute traffic that could alter traffic conditions

Source: Compiled by Ascent Environmental in 2022.

PROJECT LIST

Probable future projects considered in the cumulative analysis meet the criteria described above: they are in the proposed program vicinity and have the possibility of interacting with the program to generate a cumulative impact (Table 3.1-2). This list of projects was considered in the development and analysis of the cumulative settings and impacts for most resource topics within the geographic scope of each resource topic (as listed in Table 3.1-1). Past and present projects in the vicinity were also considered as part of the cumulative setting, as they contribute to the existing conditions upon which the environmental effects of the proposed program and reasonably foreseeable future projects are compared.

Table 3.1-2 Cumulative Project List

Project Name	Location	Description	Project Status
Countywide			
Egress/Ingress Fire Safety Project	County-maintained roads throughout the county	The project consists of removing all vegetation with stems and trunks smaller than 6 inches in diameter within 15 feet of the edge of the traveled way on approximately 200 miles of County-maintained roads. Work will be performed within the existing County roadways. The purpose of the project is to improve the safety of residents and visitors and to increase the effectiveness and safety of firefighters and first responders.	Implementation of the project began in 2021 and is planned to be completed in 2024.
Donner Pass Road Project	Donner Pass Road between Soda Springs and Truckee	This project consists of road rehabilitation and shoulder widening on 6.5 miles of Donner Pass Road. The project will improve recreational and sightseeing access; enhance parking on the east side of the summit for rock climbing, hiking, and biking; and create bike lanes in both directions on the west side and in the uphill direction on the east side.	Implementation of the project began in 2020 and is planned to be completed August 2022.
Nevada County Bridges Replacement and Rehabilitation Program 2017-2022	Multiple Locations: ▶ Dog Bar Road between Nevada and Placer counties ▶ Soda Springs ▶ Hirschdale Road in eastern Nevada County ▶ North Bloomfield Road (i.e., Edwards Crossing) northeast of Nevada City	Since 2017, Nevada County has worked with the California Department of Transportation Highway Bridge Program to replace or rehabilitate seven bridges in western Nevada County. The County is currently working on four additional bridges scheduled for replacement or rehabilitation. These include the following: ▶ Dog Bar Road over Bear River ▶ South Yuba River at Soda Springs Road Bridge Replacement Project ▶ Hirschdale Bridges (two bridges) at the Truckee River and Hinton UPRR Overhead ▶ Edwards Crossing over South Yuba River	The Soda Springs Road Bridge Replacement Project was completed in 2021. Completion of the Dog Bar Road bridge and Hirschdale bridges projects is anticipated for 2024. Completion of the Edwards Crossing bridge project is anticipated for 2027.
Relief Hill Road at Humbug Creek Bridge Replacement Project	Relief Hill Road north of Nevada City	The County is proposing to replace and widen the existing one lane timber deck bridge (Bridge No. 17C-0028) over Humbug Creek. The structure is severely deteriorated and is considered structurally deficient.	Construction is anticipated to begin in 2026.
Rock Creek Road Bridge Replacement Project	Rock Creek Road north of Nevada City	The County is proposing to replace and widen the existing one lane timber deck bridge (Bridge No. 17C-0057) over Rock Creek. The structure is severely deteriorated and is considered structurally deficient.	Construction is anticipated to begin in 2024.
Ridge Road and Rough and Ready Highway Intersection Improvement Project	Ridge Road and Rough and Ready Highway	This project will evaluate a realignment of two three-legged, angled intersections, the Ridge Rd and Rough and Ready Highway intersection and the Rough and Ready Highway/Adam Avenue intersection, to one four-legged intersection.	Construction is anticipated to begin in 2024.

Project Name	Location	Description	Project Status
Roadside Vegetation Abatement	Roadways throughout Nevada County	This project would include removal of roadside vegetation along approximately 300 miles of roads in the county.	The county is undergoing early planning work to document County roadways/easements and cultural and environmental review/study and mapping. Implementation could begin as early as 2023.
Road Maintenance and Rehabilitation Program	Roadways throughout Nevada County	5-year road maintenance and rehabilitation plan will resurface or repave roads throughout the county. Activities under this plan include road shoulder maintenance.	These activities began in 2021 and are anticipated through 2025.
Rule 20 Utility Undergrounding Project	To be determined	The project will identify one or more locations within Nevada County to create an undergrounding district and underground utilities. Work will include placement of conduits for broadband infrastructure, and potentially pedestrian and/or bicycle amenities.	Construction is anticipated for 2025-2026.
Elizabeth George to Lake Wildwood Backbone Extension Pipeline Project	Rough and Ready Highway between West Drive and the Lake Wildwood Drive/Chaparral Drive intersection	The project would construct and operate a potable water pipeline connection along 5.6 miles of road between the Elizabeth George Water Treatment Plant and the Lake Wildwood Water Treatment Plan and will serve as a backup water source to the Lake Wildwood area.	Environmental review is complete.
City of Grass Valley			
Pedestrian Crossings	Lyman Gilmore Middle School Area, Nevada Union High School Area, Idaho Maryland Commercial Area, and Grass Valley Charter School Area	The project includes installation of rectangular rapid flashing beacons, thermoplastic pavement striping and markings, pedestrian crossing signs, as well as a raised crosswalk and curb ramps at various existing crossings throughout the city. Areas include crossings adjacent to city schools, parks, and commercial areas. All construction will occur on existing asphalt roads and concrete walks.	Environmental review is complete.
Ridge Road Pipeline Replacement	Ridge Road and Sierra College Drive and Hughes Road	The project will include replacement of existing deteriorating pipeline. The pipeline will improve system circulation, add valves for operational flexibility and provide reliability. The pipeline provides potable water for the surrounding community and has fire hydrants. This is an extension of an existing water pipeline to existing homes for residents in an existing subdivision.	Environmental review is complete.
North Day Road Pipeline Replacement	North Day Road, Grass Valley	This project will replace approximately 3,790 feet of badly deteriorated pipeline on North Day Road with 8-inch pipeline.	This project is currently in the design phase.
Slate Creek Road and Drainage Improvements	Slate Creek Road near Ridge Road	This project includes replacing drainage culvert, installing infiltration trenches, repaving, and other needed improvements on Slate Creek Road from Ridge Road up to where Slate Creek Road leaves city limits.	Completed in early 2022.

Project Name	Location	Description	Project Status
Nevada City			
Street Improvements	Various locations throughout Nevada City	Various projects identified in the Nevada City Capital Improvement Plan 2021-2026 include sidewalk improvements, parking improvements, intersection improvement, and bridge replacement.	Construction timing varies with implementation beginning in 2021 and extending through 2026.
Sewer Collection System Improvements	Various locations throughout Nevada City	Various sewer main projects identified in the Nevada City Capital Improvement Plan 2021-2026.	Construction timing varies with implementation beginning in 2021 and extending through 2026.
Water Distribution System Improvements	Various locations throughout Nevada City	Various water main projects identified in the Nevada City Capital Improvement Plan 2021-2026.	Construction timing varies with implementation beginning in 2021 and extending through 2026.
Town of Truckee			
2021/2022 Roadway Vegetation Management Project	Roadways in the Glenshire/Devonshire, Prosser Lakeview, and Sierra Meadows neighborhoods	To improve wildfire resiliency, road safety and increase snow storage, all vegetation, including brush and trees, within 10 feet of the paved roadway will be removed. Temporary debris stockpiles will be staged at various locations along the shoulder of the roadways and will be removed throughout the project. All work will occur within the Town right-of-way and will not extend onto any private property.	Vegetation removal began in 2021 and is anticipated to be completed in 2022.
Truckee River Legacy Trail Phase 4	Extends from the end of South River Street to the corner of West River Street and State Route 89 South, along the south side of the Truckee River	Trail improvements would include 1.7 miles of a new paved 10-foot-wide Class 1 trail with 2-foot-wide shoulders, extension of South River Street, trailhead parking areas, two pedestrian bridges over the Truckee River, vehicle bridge at the end of South River Street, trail connections, restoration of wetlands, decommissioning of some existing dirt roads, and restoration of the riverfront access on West River Street.	Construction contract awarded in May 2022 and work to construction to be complete by 2023.
Legacy Trail-Brockway Road Multi-Use Trail Connection	Brockway Road between Palisades Drive and Truckee River Bridge	Construct a 10-foot-wide multi-use path along Brockway Road between Palisades Drive and South River Street and a short sidewalk section between South River Street and the existing sidewalk across the Truckee River bridge. The project will provide an approximate 1,700 linear-foot missing link that will connect the existing Class 1 Brockway Road Trail and Legacy Trail Phases 1-3B at the Regional Park to existing sidewalks in Downtown Truckee.	Project construction was completed in 2022.
Reimagine Bridge Street	Bridge Street at Donner Pass Road and East/West River Streets	The Reimagine Bridge Street project encompasses intersection improvements that would consist of traffic signals on Bridge Street at Donner Pass Road and East/West River Streets.	The project is currently in the design phase.
West River Streetscape Improvements	West River Street between Mill Street and Bridge Street	Streetscape improvements that include pedestrian crossings and crosswalks, pedestrian island, additional parking lot, paving and access improvements, and undergrounding of utilities.	The project is currently undergoing final design and construction is anticipated in 2023 through 2024.

Source: Compiled by Ascent Environmental in 2022.

3.1.4 Effects Found Not to Be Significant

The State CEQA Guidelines (Section 15128) allow an EIR to briefly describe the reasons why some environmental effects were determined not to be significant and then to dismiss these effects from detailed review in the EIR. Implementing the proposed program would not result in significant effects related to the issue areas described below. The issue areas listed below are dismissed from detailed review in this EIR.

AIR QUALITY

The program area encompasses Nevada County, where air quality is governed by the Northern Sierra Air Quality Management District (NSAMQD). To assist local jurisdictions in the evaluation of air quality impacts, NSAQMD has published a guidance document for the preparation of the air quality portions of environmental documents that includes thresholds of significance to be used in evaluating land use proposals. Thresholds of significance are based on a source's projected impacts and are a basis from which to apply mitigation measures (NSAQMD 2009). NSAQMD has developed a tiered approach to significance levels: a project with emissions meeting Level A thresholds require the most basic mitigations; projects with projected emissions in the Level B range require more extensive mitigations; and those projects which exceed Level C thresholds require the most extensive mitigations and should be evaluated in an EIR. The NSAQMD-recommended thresholds are identified in Table 3.1-3.

Table 3.1-3 Northern Sierra Air Quality Management District Significance Thresholds

Significance Level	Project-Level Significance Thresholds (lb/day)		
	NO_X	ROG	PM_{10}
Level A	<24	<24	<79
Level B	25-136	25-136	80-136
Level C	>136	>136	>136

Notes: lb/day = pounds per day, NO_X = oxides of nitrogen, ROG = reactive organic gases, PM_{10} = respirable particulate matter.

Sources: NSAQMD 2009.

The significance criteria used to evaluate program impacts on air quality under CEQA are based on Appendix G of the State CEQA Guidelines and NSAQMD Significance Thresholds. The program would result in a significant impact related to air quality if it would:

- generate short- or long-term increases in emissions in excess of Levels A thresholds for NO_X and ROG of 24 pounds per day (lb/day) and PM_{10} of 79 lb/day;
- generate emissions in excess of Level B thresholds for NO_X and ROG of 24–236 lb/day and PM_{10} of 79–136 lb/day;
- generate emissions exceeding Level C thresholds for NO_X, ROG, or PM_{10} (i.e., 136 pounds per day);
- exceed the NSAQMD health risk public notification thresholds set at 10 excess cancer cases in a million for cancer risk, or a Hazard Index of greater than one (1.0) for noncancer risk;
- result in a violation of a state ambient air quality standard for CO; and/or
- result in the frequent exposure of sensitive land uses to odorous emissions.

NSAQMD has not adopted thresholds of significance for PM2.5. However, because PM2.5 is a subset of PM10, significant increases in PM10 would be considered to also result in significant increases in PM2.5.

It is important to note that in any case when predicted emissions are projected to be above Level A thresholds, impacts would be considered potentially significant and would require mitigation. The extent of mitigation is determined by the significance levels summarized in Table 3.1-3. This analysis therefore uses Levels A and C thresholds to determine the degree to which mitigation should be applied to program-generated emissions.

- Based on modeling performed for the program in Section 3.6, "Greenhouse Gas Emissions and Climate Change," the program would generate a maximum amount of ROG, NO_X, and PM_{10} of 1.5, 14.9, and 1.0 lb/day, respectively, assuming five concurrent 10-foot-wide, 1-mile-long segments of fiber optic cable lines would be installed in the Nevada County, which is representative of a worst-case construction scenario using typical fiber installation equipment (see Appendix B). These levels are below NSAQMD's Level A thresholds of significance, and are therefore not considered substantial or require mitigation. Therefore, the program would not generate emissions of criteria air pollutants that would conflict with long-term regional planning. This impact would be less than significant.
- The program would generate a very low level of diesel PM, a toxic air contaminant (TAC) commonly emitted during construction; however, these levels would be less than 1 lb/day. Moreover, fiber optic cable installation is inherently linear such that construction equipment and activity would be continually moving along the roadway or planned fiber route and would not remain in one place for any substantial length of time. Therefore, diesel PM, other vehicle and equipment emissions and odors would disperse along the route and not become concentrated in any one area. Localized construction activities would be very short-term (approximately 30 days) and include minor construction equipment. These impacts would be less than significant.

AGRICULTURE AND FORESTRY RESOURCES

The western portion of the program area may be located adjacent to lands that contain Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2022). No Prime Farmland, Unique Farmland, or Farmland of Statewide Importance are identified in the eastern portion of the program area (California Department of Conservation 2022). In 2018, 276 acres of Prime Farmland, 461 acres of Unique Farmland, and 1,162 acres of Farmland of Statewide Importance were documented in the county (California Department of Conservation 2020). A few parcels zoned under a Williamson Act contract are located adjacent to program area roads in western Nevada County (Nevada County 2018). No parcels zoned under a Williamson Act contract are located in Nevada City or the City of Grass Valley. Much of western Nevada County generally outside of urban areas, including Nevada City and the City of Grass Valley, is zoned for agricultural use (Nevada County 2021a, 2021b).

The proposed program would be located primarily along existing roads and disturbed areas. The program area could potentially include small strips or plots of land that are designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance or zoned for agricultural use or under Williamson Act contract. However, because the program area includes public and private roads and locations in previously disturbed and/or developed areas, construction of the fiber optic projects and staging and equipment lay-down areas would not be sited on lands that are currently in agricultural production by the respective landowners. The program would consist of underground fiber optic lines and some aboveground aerial stringing using existing or new utility poles in areas where trenching would be difficult, which would not interfere with continuation of the existing aboveground uses after construction is completed. Impacts on agricultural resources would be less than significant.

Large portions of Nevada County contain areas zoned as Forest and Timberland Production Zone (TPZ), with most of these areas correlating with the locations of US Forest Service lands in the central to eastern portions of the county. The purpose of Forest and TPZ zoning designations are to protect timber resources and provide for forest resource management and allow for compatible uses. A small area in the northwest portion of Nevada City is zoned Agricultural Forestry, which preserves agricultural and forestry use in the urban fringe (Nevada County 2021a, 2021b). Land throughout the Town of Truckee is zoned Resource Conservation/Open Space, which includes forest and rangeland that could potentially provide grazing and forestry resources generally coincide with rangeland vegetation areas and forest land, respectively. Despite the potential for these uses, there is no active grazing taking place in Truckee today, and no commercial forestry, although some timber harvesting for forest management does occur (Town of Truckee 2019).

The proposed program would include construction activities that may require removal of some trees and other vegetation that may be growing in the program area that could interfere with construction of some sections of the proposed program. The fiber optic lines would not cross any US Forest Service managed lands. Because the

proposed program would be in or adjacent to public and private roads and in previously disturbed and/or developed areas and because fiber optic line and conduit installation are compatible uses within these areas, the proposed program would not conflict with existing zoning, cause the rezoning of forest land, cause the rezoning of forest land, or convert forest land to non-forest use. All construction, and therefore, use of these lands would be temporary; no permanent conflict with existing zoning or conversion or loss of forest land would result. This impact on forest resources would be less than significant.

ENERGY

The program would not generate additional energy demand beyond existing conditions within the program area, but rather seeks to improve the connectivity of rural communities in Nevada County through improved broadband access. As discussed above, the program would comprise multiple segments of new fiber optic lines throughout Nevada County, which would require the use of heavy-duty construction equipment. Energy would be consumed in the form of gasoline and diesel fuel to power this equipment and worker commute vehicles. However, this energy use would be inherently short-term and not substantial, and would be a necessary energy expenditure to facilitate the expansion of Nevada County's broadband network, which could ultimately result in a decrease in gasoline consumption as rural workers are provided better telecommuting opportunities. Because the program would not induce new energy demand, would not conflict with a local or statewide plan for renewable energy or energy efficiency, and would support better internet for telecommuting, resulting in a reduction in VMT countywide, energy impacts from program implementation would be less than significant.

LAND USE AND PLANNING

There are various general plan and zoning designations in the program area. The fiber optic line would be sited primarily located within or along existing roads, which currently may contain some existing utility infrastructure. Public and private roads are currently designated in city and county general plans, zoning codes, and ordinances to accommodate such uses. Although some temporary construction-related traffic disturbances affecting access from one portion of a community to another could occur, the proposed program would not permanently divide an established community. Program operation and maintenance would not physically divide an established community because the fiber optic line and conduit would be placed primarily underground (or, in limited instances, attached to bridges or aboveground poles) within the program area. Prior to issuance of use permits, grading, and/or encroachment permits by Nevada County, City of Grass Valley, Nevada City, and Town of Truckee, individual projects would be required to demonstrate compliance with all applicable laws, regulations, policies, and ordinances. Impacts related to land use and planning would be less than significant.

POPULATION AND HOUSING

The proposed program does not involve constructing housing and, thus, would not contribute to unplanned growth. Instead, the program would include installation of fiber optic line along existing public or private roads and in previously disturbed and/or developed areas, but it would not displace people or housing. Therefore, the proposed program would have no impact on population and housing. The potential for the program to have indirect growth-inducing effects is addressed in Section 5.1, "Growth Inducement," in Chapter 5, "Other CEQA-Mandated Sections," of this EIR.

PUBLIC SERVICES

The proposed program would not generate an increased need for public services, such as fire or police protection, schools, or parks, because there would be no changes in population or any new housing resulting from installation of fiber optic line in the program area. In addition, individual project components would not physically alter existing government facilities such that service ratios, response times, or other performance objectives for fire protection,

police protection, schools, parks, or other public facilities would be affected. Implementing the program would not result in the need for new or altered governmental facilities and would, therefore, not affect public services.

RECREATION

The proposed program would not contribute to unplanned growth and would not include new housing, so it would not increase the use of existing recreational facilities or demand for new recreational facilities that would adversely affect the environment. Therefore, the program would have no impact on recreation.

UTILITIES AND SERVICE SYSTEMS

Water and Wastewater

The proposed program would involve construction and operation of a fiber optic communications network, which would not generate wastewater as a result of program operation. The facilities would not require potable water supplies for washing, cleaning, or other purposes that could subsequently result in wastewater generation. As no wastewater would be generated, the program would not exceed wastewater treatment requirements of any Regional Water Quality Control Board and no new wastewater treatment facilities or expansion of such facilities would be required. Construction of individual fiber projects could involve minor use of water for dust control, which would be readily available from existing sources. Operation of the fiber optic facilities would not require additional water supplies as no population would be generated by the program. Thus, no new water treatment or supply facilities would be required. Therefore, no impact would occur.

Stormwater Drainage Facilities

Construction of individual fiber projects would occur in the program area, including areas that could include existing stormwater drainage facilities. During construction, once fiber optic conduits are installed, the ground surface along the individual fiber optic line alignments would be restored to its existing condition (paved or unpaved). Therefore, the amount of pervious and impervious surfaces along the program area would be unchanged upon completion of individual fiber projects. As such, the program would not increase the level of storm water runoff in the program area, and no new or expanded facilities would be required. Thus, no impact would occur, and this issue is not discussed further.

Solid Waste

The California Green Building Standards Code (CALGreen) mandates locally permitted construction and demolition projects to recycle and/or salvage for reuse a minimum 65 percent of the nonhazardous construction and demolition (C&D) debris generated during construction activities (CALGreen Sections 4.408, 5.408, 301.1.1 and 301.3). Depending on the location of an individual fiber project, construction of the project would be required to comply with C&D diversion identified in CALGreen; Nevada County Code Article 8.A, "Diversion of Construction and Demolition Materials;" or Chapter 6.02, "California Green Building Standards," of the Town of Truckee Municipal Code. The City of Grass Valley and Nevada City do not have a dedicated C&D diversion ordinance; thus, projects in those jurisdictions would be subject to CALGreen requirements. Typically, compliance with C&D diversion requirements are documented in a construction waste management plan and proof of construction waste diversion is submitted to the applicable jurisdiction.

Waste disposal and recycling needs in Nevada County, including the incorporated jurisdictions, are served by Eastern Regional Landfill Material Recovery Facility (MRF) and Transfer Station, North San Juan Transfer Station, Washington Transfer Station, and McCourtney Road Transfer Station. The McCourtney Road Transfer Station is undergoing renovation to implement improvements to the existing facility to address current traffic and material capacity issues and to accommodate future community growth (Nevada County 2022). Solid waste in the county is disposed of in the Lockwood Regional Landfill in Nevada, which has a remaining capacity of 267 million cubic yards and an estimated closure date of 2150 (State of Nevada 2017).

Individual fiber projects would generate minimal waste relative to a typical building construction project. Such waste could be associated with packaging of fiber optic lines, some asphalt, and vegetation removal. Excavated material would generally be used to backfill in excavated areas as part of surface restoration following conduit and line installation. Because of the requirements to divert C&D materials from disposal in landfills and the relatively minimal amount of solid waste generated by individual fiber projects, the program would not adversely affect the jurisdictions' abilities to comply with the State waste diversion requirements. Additionally, for these reasons, the program would not adversely affect the capacity of local transfer stations and the Lockwood Regional Landfill. The proposed program would not result in significant impacts related to solid waste.

Electricity and Natural Gas

Fiber optic line does not require the use of electricity or natural gas for construction, maintenance, or operation; thus, the individual fiber projects would not generate demand for electricity and natural gas.

Conflicts with Utility Infrastructure

Various underground and aboveground utility lines (e.g., water, wastewater, electricity, natural gas) are located at various depths throughout the program area.

Individual fiber project sites would be surveyed for the presence of utilities and marked for avoidance during construction activities. For construction of underground fiber optic lines, construction activities would maintain minimum clearances from all utilities running parallel to the fiber optic lines, which would require existing utilities to remain buried and unaffected by construction activity. However, there may be locations where construction activities would cross existing stormwater, wastewater, water, natural gas, and electrical lines.

Each individual fiber project final plan set would identify the locations of any utilities that cross or are adjacent to the fiber optic line and identify minimum vertical clearances and any adjustments in the vertical alignment of the fiber optic line or conduit to avoid the existing utility. Final plans would be required to be reviewed and approved by the County, Cities, or Town before construction permits are issued by the applicable jurisdiction. The final plans would be prepared consistent with the design and construction standards of the applicable jurisdiction, including identification of all existing utilities in the individual project site. In addition, the project contractor would be required to notify Underground Service Alert in advance of beginning any excavation work. Because individual fiber projects would be designed to avoid conflicts with existing utility infrastructure by complying with County, City, or Town design and construction standards, as applicable, it would not require or result in the relocation or construction of new or expanded water, recycled water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.

WILDFIRE

Impacts related to exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires and impairment of an adopted emergency response plan or emergency evacuation plan are addressed in Section 3.7, "Hazards and Hazardous Materials."

The program area includes areas throughout the county that are characterized by moderate to steep slopes. The program would primarily involve installing underground fiber optic line and some aboveground aerial stringing of fiber optic lines along new or existing poles or along bridges. Broadband infrastructure would be located primarily within or along existing public or private roads and in previously disturbed and/or developed areas. The program would not result in any alterations to slope, wind, or other factors that could exacerbate wildfire risks.

The areas of construction in the program area would be cleaned up and the surface restored promptly following conduit and line installation. Cleanup would include removing debris and restoring original surfacing and contours. Fiber optic lines do not carry an electrical charge and are not a source of heat (Fluke Networks 2022) such that the underground or aboveground lines would not exacerbate fire risk. As noted above, impacts related to exposure of people or structures to wildfire risk are discussed in Section 3.7, which addresses potential wildfire risks associated with construction activities.

The program would not result in an increase in population, nor would the program include the construction of residential or commercial structures. For the reasons described above, the program would not result in a substantial change in runoff, post-fire slope instability, or drainage changes that would expose people or structures to significant risks. These impacts related to wildfire would be less than significant.

3.2 AESTHETICS

This section provides a description of existing visual conditions, meaning the physical features that make up the visible landscape, in the program area and an assessment of changes to those conditions that would occur from program implementation. The effects of the proposed program on the visual environment are generally defined in terms of the physical characteristics and visibility of its elements (e.g., new utility poles) and the extent to which they would change the perceived visual character and quality of the environment.

No environmental issues related to aesthetics were raised during public scoping.

The analysis in this section is based on a review of information from the General Plans for Nevada County, the City of Grass Valley, Nevada City, and the Town of Truckee. In addition, the analysis in this section is based on methodology adapted from the Federal Highway Administration's (FHWA) Guidelines for the Visual Impact Assessment of Highway Projects (2015). The "Methodology" discussion below provides further detail on the approach used in this evaluation.

The program would not introduce new light sources during construction or operation. In addition, no reflective surfaces that could cause glare would be used for aboveground infrastructure. Construction activities would be limited to daytime hours and no temporary construction area lighting would be required. Therefore, the program would not result in impacts related to light and glare, and this topic is not evaluated further in this EIR.

3.2.1 Regulatory Setting

STATE

California Scenic Highway Program

The California Scenic Highway Program, maintained by the California Department of Transportation (Caltrans), protects California State Highway corridors from changes that would diminish the aesthetic value of lands adjacent to the highways, and works to enhance their natural scenic beauty. The Scenic Highway Program includes a list of highways that are either officially designated or eligible for designation as scenic highways. The status of a proposed state scenic highway changes from eligible to officially designated when the local governing body applies to Caltrans for scenic highway approval, adopts a Corridor Protection Program, and receives notification that the highway has been officially designated a Scenic Highway. Development near a scenic highway does not render a roadway ineligible, nor is development or lane widening prohibited in officially designated scenic highways.

LOCAL

Nevada County General Plan

The Nevada County General Plan (Nevada County 1996 [amended in 2008, 2010, 2014]), which was originally approved in 1996 and subsequently amended over the years, is the long-term policy guide for the physical development of the county. The General Plan is comprised of goals, objectives, policies, and implementation programs intended to carry out the following four central themes:

1. Fostering a rural quality of life;
2. Sustaining a quality environment;
3. Development of a strong diversified, sustainable local economy; and
4. Planned land use patterns will determine the level of public services appropriate to the character, economy and environment of each region.

The Aesthetics Element of the Nevada County General Plan includes goals, objectives, and policies intended to protect the scenic values within the county, while achieving a desirable aesthetic character within the cities, towns, and suburban areas (Nevada County 1995). The following goals, objectives, and policies are applicable to the program:

GOAL 18.2: Protect and preserve important scenic resources

- Policy 18.7: Encourage protection of scenic corridors wherever feasible.

Objective 18.3: Promote the conservation of scenic roads and highways.

City of Grass Valley General Plan

The City of Grass Valley 2020 General Plan is the blueprint for growth and development within the City of Grass Valley and surrounding unincorporated areas (City of Grass Valley 1999). The following goals and objectives from the Community Design and Conservation/Open Space Elements are applicable to the program:

- 2-CDO: Preservation of notable landmarks, streetscape and other areas of architectural or aesthetic value providing continuity of the past.
- 3-CDO: Recognition and protection of major views in the planning area, with particular attention to notable buildings, open space, hillsides, valleys, ridgelines, and forested views.
- 4-COSG: Protect and enhance town entryways, visual corridors and important viewsheds including ridgelines.

Nevada City General Plan

The Nevada City General Plan (Nevada City 1986 [amended in 2008, 2009, 2014]) is intended to ensure the preservation of the valuable qualities within the city, while allowing desirable and beneficial growth consistent with the adopted goals of the community. The major principles identified in the General Plan are to preserve the wooded surroundings, enhance the historic core of the city, reinforce existing commercial areas, and create opportunities for employment and revenue generators. The following objectives from the General Plan are applicable to the program:

- Preserve the existing impression of a historic town surrounded by open forest, especially from the "Gateway" at Ridge Road.
- Preserve and enhance the important natural features, e.g., Sugarloaf, the ridges, the creeks, Gold Run, the hills within the city, and the steep terrain lying west of the city core.
- To protect and enhance the scenic qualities of [State Route 20 and State Route 49] by controlling the type and form of development within the adjacent corridor as discussed under findings: Scenic Highways.

Town of Truckee General Plan

The 2025 General Plan is an update to the Town of Truckee's first General Plan adopted in 1996 (Town of Truckee 2006). The General Plan Update serves as a plan for the how the Town will fulfill its community vision and how the Town wishes to develop in the future. The following goals and policies from the Conservation and Open Space Element are applicable to the program:

GOAL COS-1: Preserve existing open space in Truckee, and increase the amount of desired types of open space under permanent protection.

- P2.6: Regulate development and land uses along the Truckee River corridor and Donner Lake to ensure compatibility with their scenic, recreational and habitat values.

GOAL COS-7: Protect and conserve managed resource open space for its productive resource values, including timber harvesting and grazing uses, and for its recreational, scenic, and biological values.

Tree Protection Ordinances

The jurisdictions within the program area have recognized that trees play an important role in protecting public health, safety, and welfare. In addition to maintaining the visual character and aesthetic beauty of their environments, trees are also beneficial for controlling erosion and flooding, improving air quality, moderating temperature, shielding

noise, and providing habitat for native wildlife. Consequently, the jurisdictions within the program area have established ordinances for the preservation and protection of trees and other vegetation. These ordinances are codified in Section L-II 4.3.15, "Trees," of the Nevada County Code; Chapter 12.36, "Tree Preservation and Protection," of the Grass Valley Code of Ordinances, Chapter 18.01, "Tree Preservation," of the Nevada City Code of Ordinances; and Section 18.30.155, "Tree Preservation" of the Truckee Municipal Code. These ordinances specify the types of trees that are eligible for protection; the classes of activities subject to tree removal and permitting requirements; and the measures required to protect or preserve trees, or mitigate for the removal of protected trees. Enforcement of these ordinances occurs during the development review process and through the issuance of permits for cutting or removing protected trees. Further discussion of tree ordinances and protection standards for Nevada County, City of Grass Valley, Nevada City, and the Town of Truckee is included in Section 3.4.1, "Regulatory Setting," in Section 3.4, "Biological Resources."

3.2.2 Environmental Setting

METHODOLOGY AND TERMINOLOGY

The methodology for describing the environmental setting related to aesthetics was adapted from FHWA's *Guidelines for the Visual Impact Assessment of Highway Projects* (2015). Although FHWA's guidelines were developed for highway projects, their methodology for describing visual settings and impacts can be applied to other project types.

Identifying the program area's visual resources, character, and quality involves the following process:

- objectively identifying visual features and resources of the landscape,
- assessing the character and quality of the resources relative to overall regional visual character, and
- determining importance to people (or sensitivity) of views of visual resources in the landscape.

Visual character is described through the elements of form, line, color, and texture of the landscape features. The appearance of a landscape can be described in terms of the dominance of each of these components. Visual quality is assessed through determining the degree of vividness, unity, and intactness of the view:

- **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.

Viewer groups include (1) travelers, such as those that are commuting, touring, or transporting goods on roadways; and (2) neighbors, such as those occupying a residential, institutional, retail, commercial, industrial, agricultural, or open space/recreational land use. Viewer sensitivity is affected by proximity (i.e., the distance from the viewer to the scene), extent (i.e., number of viewers observing the scene), and duration (i.e., how long viewers spend looking at the scene).

REGIONAL SETTING

Nevada County is characterized by vast areas of preserved open space. According to the Nevada County General Plan Land Use Element, predominant land uses within the county are forest (55.5 percent), rural (29.3 percent), and open space (4.3 percent). These land uses include Tahoe National Forest lands managed by the US Forest Service and open lands managed by the Bureau of Land Management. Rural areas within the county consist primarily of small residential communities and agriculture lands (Nevada County 1995).

Nevada County also consists of developed cities, towns, and suburban areas. Development is primarily concentrated in and around the City of Grass Valley and Nevada City in the western portion of the county and in the Town of

Truckee in the eastern portion of the county. Structures within these areas are subject to architectural controls, preservation ordinances, and zoning laws. These requirements are intended to control land use patterns to create a cohesive urban design standard and preserve the scenic quality of the county (Nevada County 1955).

The City of Grass Valley is characterized as having a small town, rural character, with a strong sense of community. The aesthetic values of the city include the trees, natural amenities, views, architectural features, and the historical look and feel of the downtown area. Within the core of the city, substantial land area is devoted to commercial, industrial, and other business uses (City of Grass Valley 1999).

The Nevada City General Plan defines the character of Nevada City as a small, compact, historic town surrounded by green, wooded hills. The city includes a mixture of historic, residential, recreational, commercial, and industrial development that is reflective of its origins during the gold rush (Nevada City 1986).

The Town of Truckee's visual character comes from its mountain environment and dramatic alpine setting, its varied topography and extensive open space areas, as well as the character of its historic center and dispersed residential neighborhoods. The town's vast areas of open space, natural habitat, forest land, and recreational uses are perceived as offering the highest degree of aesthetic value to the community (Town of Truckee 2006).

LOCAL SETTING

The exact alignments of future fiber optic project are unknown at this time; however, the program area includes approximately 2,230 miles of public and private roadways in addition to previously disturbed or developed areas where lateral lines could be installed between those roadways and individual businesses or residences throughout Nevada County. The visual character and quality of the program area varies depending on the location. Program area roadways range from rural roads to major transportation corridors. In less developed areas, the program area may be adjacent to or include forest lands, open space, and sparsely populated rural residential development. In more urban areas, the program area may be adjacent to or include denser residential, commercial, institutional, and industrial development and associated infrastructure.

Portions of the program area may be lined with tall vertical features, including mature trees, utility poles, streetlights, and roadway signs. Horizontal features may include building and pavement edges, fences, and utility lines. Depending on the topography and presence of intervening structures, the program area may offer scenic views of mountain ranges and peaks, river valleys and lakes, forests and woodlands, or buildings of architectural value. Some portions of the program area may offer striking and dramatic views of preserved natural landscapes or well-designed rural and urban landscapes, with moderate to high degrees of vividness, intactness, and unity. Other areas may offer views that are more uniform in appearance with low to moderate degrees of vividness, intactness, and unity.

Viewer groups within the program area would primarily consist of thru-motorists (e.g., commuters, tourists, and commercial truck drivers) traveling on these roadways. The overall visual sensitivity of motorists is low because they would generally be focused on the roadway. In addition, because motorists would be passing through, the duration and frequency of exposure to fiber optic line installation activities for this viewer group would be minimal.

Residents in the program area would also be considered a viewer group because they may have views of the program area from their residences and may travel along program area roadways to reach commercial and recreational areas. Visual sensitivity for this viewer group is high because the duration and frequency of exposure would be relatively high. Similarly, those that work at commercial, industrial, and agricultural land uses in the program area would have high visual sensitivity.

SCENIC RESOURCES AND VISTAS

As identified in the Nevada County General Plan, important scenic resources and vistas within the county include: (1) views of Lake Donner from Old Highway 40; (2) views of the valleys created by the South Fork of the Yuba River and its smaller tributaries, and (3) views of mountain peaks that comprise the Sierra Nevada Ranch, such as Castle

Peak (Nevada County 1995). Scenic overlooks within Nevada County include the Jefferson Creek Scenic Overlook and Omega Diggings Overlook on SR 20 and Emigrant Gap Scenic Overlook and Donner Lake Vista Point on I-80.

Within the City of Grass Valley, important scenic resources include views from roadways to surrounding open areas, foothills, and mountains. The City of Grass Valley General Plan identifies areas of aesthetic importance, which include city entryways from State Route (SR) 20 and SR 49; highway corridors; and developed properties, such as Loma Rica Ranch, North Star, Kenny Ranch, and the Bear River Mill site (City of Grass Valley 1999).

Important scenic resources within Nevada City include natural features such as Sugarloaf Mountain; Gold Run Creek; and other creeks, ridges, hills, and steep terrain (Nevada City 1986).

The Town of Truckee includes many areas with uninterrupted vistas and scenic views, including views of mountain peaks and ridges (e.g., Castle Peak, Donner Peak, Mt. Judah, Tinker Knob, and Mt. Rose), Donner Lake, the Truckee River valley, and meadows and forestlands (Town of Truckee 2006).

SCENIC HIGHWAYS

Caltrans has identified the following highways within Nevada County as eligible State Scenic Highways:

- SR 20 from near Grass Valley to Interstate 80 (I-80) near Emigrant Gap (with the exception of the section of SR 20 described below);
- SR 49 throughout the entire county;
- SR 174 throughout the entire county;
- I-80 throughout the entire county; and
- SR 89 throughout the entire county (Caltrans 2019).

SR 20 from Skillman Flat Campground to 0.5-mile east of Lowell Hill Road (a distance of 6.5 miles) is an officially designated state scenic highway. This section of SR 20 passes through Tahoe National Forest.

The highways listed above are also identified as scenic corridors in the General Plans for Nevada County (1995), the City of Grass Valley (1999), Nevada City (1986), and the Town of Truckee (2006).

Other scenic corridors identified in the Nevada County General Plan include SR 267 and Donner Pass Road (Old Highway 40), from the I-80/Soda Spring intersection to the town limits of Truckee (Nevada County 1995). The Yuba-Donner Scenic Byway, which includes portions of SR 89, SR 49, SR 20, and I-80 through the Tahoe National Forest, is also designated as a National Forest Scenic Byway by the US Secretary of Transportation (America's Scenic Byways n.d.).

3.2.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

The methodology for evaluating impacts related to aesthetics was adapted from FHWA's *Guidelines for the Visual Impact Assessment of Highway Projects* (2015). Visual impacts are evaluated based on the changes to the environment (measured by the compatibility of the impact) or to viewers (measured by sensitivity to the impacts). Together, the compatibility of the impact and the sensitivity of the impact yield the degree of the impact to visual quality.

- Compatibility of the Impact: Defined as the ability of environment to absorb the program as a result of the program and the environment having compatible visual characters. The program can be considered compatible or incompatible.
- Sensitivity to the Impact: Defined by the ability of viewers to see and care about a program's impacts. The sensitivity to impact is based on viewer sensitivity to changes in the visual character of visual resources. Viewers are either sensitive or insensitive to impacts.

- Degree of the Impact: Defined as either a beneficial, adverse, or neutral change to visual quality. A proposed program may benefit visual quality by either enhancing visual resources or by creating better views of those resources and improving the experience of visual quality by viewers. Similarly, it may adversely affect visual quality by degrading visual resources or obstructing or altering desired views.

THRESHOLDS OF SIGNIFICANCE

An impact on aesthetics, light, and glare is considered significant if implementation of the program would do any of the following:

- have a substantial adverse effect on a scenic vista;
- substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings; and/or
- in urbanized areas, conflict with applicable zoning and other regulations governing scenic quality.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: Effects on Scenic Vistas

Scenic vistas are present along various highways within Nevada County, which include scenic overlooks on SR 20 and I-80. Much of the program area would be located outside the viewsheds of these scenic overlooks and most program components would be installed underground and would not be visible after construction. Although the program would involve installation of new aboveground fiber optic lines and utility poles in some areas, these components would be similar in size and scale to existing horizontal and vertical features in the county, including those visible from scenic vistas. Construction activities would result in temporary visual changes for sensitive viewer groups; however, construction areas would be returned to conditions similar to those that existed prior to program activities. Therefore, impacts to scenic vistas would be **less than significant**.

As discussed in Chapter 2, "Project Description," the program would include installation of new belowground fiber conduit and access boxes along public and private roadways and in previously disturbed and/or developed areas. In areas where topography or underground substrate would prohibit or impede construction of subsurface fiber optic lines, the program would require the installation of aboveground fiber optic lines that would utilize existing or newly constructed utility poles.

The program would not include installation of fiber optic lines on federal lands or along state highways. As such, no aboveground structures would be installed within the viewshed of established scenic overlooks in Nevada County, including the Jefferson Creek Scenic Overlook and Omega Diggings Overlook on SR 20, and Emigrant Gap Scenic Overlook and Donner Lake Vista Point on I-80.

Some roadway segments and previously disturbed and/or developed areas within the program area have scenic views of natural features (e.g., forests, streams, and hills) and buildings of architectural value. However, many of the roadways, in particular, within the program area are lined with tall vertical features (e.g., mature trees, utility poles, streetlights, and roadway signs) and horizontal features (e.g., building and pavement edges, fences, and utility lines). Most of the fiber optic line constructed as part of the program would be located underground. Some new aboveground fiber optic lines on newly constructed utility poles could be introduced in existing viewsheds; however, these structures would be generally consistent with existing vertical and horizontal features within the program area. New aboveground fiber optic lines and utility poles would not be so large that they would dominate existing viewsheds or detract from existing views. Therefore, program operations would not obstruct or substantially alter views from scenic vistas.

Construction activities would result in temporary visual changes for sensitive viewer groups (e.g., residents, recreation users). In general, for each mile of underground fiber optic conduit, boring activities would take an estimated average of 10 days and trenching would take an estimated average of 18-20 days in a given area. During this time, construction staging areas, crews, vehicles, and equipment would be present within existing viewsheds. Construction activities would include trenching, directional drilling, fiber blowing, aerial fiber installation, and fiber splicing. These areas would be returned to conditions similar to those that existed prior to program activities. Because construction activities would be short-term and temporary in a given area, construction of the program would not permanently or substantially obstruct views from scenic vistas. Therefore, operation and construction of the program would not have a substantial adverse effect on a scenic vista. Impacts would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.2-2: Damage Scenic Resources within a State Scenic Highway

The program area does not include any state scenic highways. A portion of SR 20 in the county is officially designated as a state scenic highway; however, it is located in the Tahoe National Forest, which is outside of the program area. All program components would be installed along public or private roads and in previously disturbed and/or developed areas. In addition, the program would utilize construction methods that avoid impacts on most aboveground resources. Therefore, impacts related to scenic resources within a state scenic highway would be **less than significant.**

The program would involve the installation of fiber optic lines along public and private roads and in previously disturbed and/or developed areas throughout the county. Although the specific locations of individual fiber projects are not known at this time, the program would not include installation of fiber optic lines on federal lands or along state highways, including any officially designated or eligible state scenic highways. Railroads or state highways could also be crossed by fiber optic line. The program does not exclude the possibility of boring under state highways at intersections with public or private roads to install underground fiber optic lines. There may be instances where an individual fiber project would cross a state highway; however, directional drilling would occur below the highway at a minimum of 18 feet below the base of the centerline of the highway. Drilling would originate and terminate at the roadway outside of the state highway right-of-way and no aboveground structures would be located in state highway right-of-way.

Scenic resources would not be affected by the program because fiber optic lines would be predominantly installed under or along existing roads and in areas that have been previously disturbed or developed. Furthermore, installation of fiber optic lines would utilize horizontal directional boring. This method of installation involves minimal ground disturbance and is intended to avoid most aboveground resources, such as rock outcroppings, waterways, and historic buildings. In some areas, topography or underground substrate may prohibit or impede installation of subsurface fiber optic lines. In these areas, the program would include the installation of aboveground fiber optic lines that would utilize existing or newly constructed utility poles. New aboveground fiber optic lines, utility poles, and temporary staging areas to support their construction would occur primarily within previously disturbed areas. Disturbed areas would be returned to pre-program conditions.

Based on the above discussion, the program would not damage scenic resources, including trees, rock outcroppings, and historic buildings within a state scenic highway. Impacts would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.2-3: Degrade Existing Visual Character or Quality of Public Views in Non-Urbanized Areas

Substantial portions of the program area are non-urbanized, including public and private roadways and previously disturbed and/or developed areas adjacent to forest, open space, and rural landscapes. Most program components would be installed belowground, and thus, would not be visible. The program would require installation of new aboveground fiber optic lines and utility poles in some areas; however, these project components would be similar in size and scale to existing horizontal and vertical features within the program area and throughout the county. Implementation of individual fiber projects could require removal of trees in non-urbanized areas; however, the amount of tree removal that could occur would not substantially reduce scenic quality, scenic impacts would be limited to those related to tree removal, and the extent of tree removal from any single view would be limited such that there would not be a potentially significant impact on visual character or quality of public views. Therefore, impacts related to the visual character and quality of public views in non-urbanized areas would be **less than significant.**

During construction of each fiber project, approximately three to five crews could be working simultaneously in separate portions of the program area. Installation of any individual segment of fiber optic line could involve multiple construction crews working simultaneously, with plowing, trenching, and directional drilling occurring at the same time in different locations of the segment. For a given mile of underground fiber optic cable installation, boring activities would occur over approximately 10 days and trenching activities would occur over approximately 8 to 20 days, resulting in temporary visual changes for sensitive viewer groups. These areas would be returned to conditions similar to those that existed prior to program activities. Therefore, construction of the program would not permanently or substantially degrade existing visual character or quality of public views in non-urbanized areas.

As discussed in Chapter 2, "Project Description," the program could include installation of over 2,200 miles of new fiber conduit throughout the program area. In addition, access boxes (vaults) would be installed belowground and with a traffic-bearing cover, where applicable. These components of the program would not introduce new permanent aboveground structures with potential to degrade existing visual character or quality of public views in non-urbanized areas.

The program would require the installation of aboveground fiber optic lines that would utilize existing or newly constructed utility poles in areas where topography or underground substrate would prohibit or impede construction of subsurface fiber optic lines. The steel poles would be approximately 50 to 100 feet above the ground surface. On average, pole spacing would be approximately 300 feet. The diameter of the poles would generally range from 15 inches to 19 inches at the base for aboveground poles. Guy wires or self-supporting poles may be connected to the poles in areas that need additional stability. Self-supporting poles would be mounted on concrete foundations, each of which would be 3 to 6 feet in diameter. These foundations typically extend above the ground surface to a height of 6 to 12 inches, but there could be site-specific circumstances where up to 2 feet of height would be required. The diameter of the foundation for self-supporting poles could be as much as 4.5 feet if they are attached to concrete foundations.

The program would include installation of new fiber conduit along public and private roads and in previously disturbed and/or developed areas that may have views of natural features (e.g., forests, streams, and hills) and buildings of architectural value. As discussed in Section 3.2.2, portions of the program area are lined with tall vertical features, including mature trees, utility poles, streetlights, and roadway signs. In addition, horizontal features include building and pavement edges, fences, and utility lines. Although the program would introduce new aboveground fiber optic lines and newly constructed utility poles in existing viewsheds, these structures would be generally consistent with existing vertical and horizontal features within the program area. New aboveground fiber optic lines and utility poles would not be large enough to dominate existing viewsheds or detract from existing views. Some portions of the program area have higher viewer sensitivity, such as those areas with more residences or recreational resources (e.g., trails) in or near the program area; however, the visual changes from the program would be compatible with the existing environment and the overall change in visual quality would be neutral because aboveground program features would not result in any notable changes to existing visual elements, or to the vividness, intactness, or unity of existing views.

Additionally, while individual fiber projects could require some tree removal, the minimal amount of tree removal that could occur would not substantially reduce scenic quality, scenic impacts would be limited to tree removal, and the extent of tree removal from any single view would be limited such that tree removal would not cause a potentially significant impact related to visual character or quality in non-urbanized areas. Although individual fiber projects that could affect protected trees (e.g., landmark trees, landmark groves, heritage trees, heritage groves) would not be subject to County regulations protecting trees (see Impact 3.4-6 in Section 3.4, "Biological Resources"), project proponents would be required to comply with Mitigation Measure 3.4-6 that would further reduce the potential for the program to degrade existing visual character and the quality of public views.

For these reasons, construction and operation of the program would not substantially degrade existing visual character or quality of public views in non-urbanized areas. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.2-4: Conflict with Regulations Governing Scenic Quality in Urbanized Areas

Urbanized portions of the county are predominately concentrated around the City of Grass Valley, Nevada City, and the Town of Truckee. The utility infrastructure is allowed within all zoning districts and would be subject to applicable regulations and standards governing public utilities and tree removal. Implementation of individual fiber projects could require removal of trees in urbanized areas; however, the minimal amount of tree removal that could occur would not substantially reduce scenic quality, scenic impacts would be limited to tree removal, and the extent of tree removal from any single view would be limited such that there would not be a potentially significant impact on scenic quality. Additionally, project proponents would be required to comply with Mitigation Measure 3.4-6 that would reduce potentially significant impacts related to conflicts with regulations governing scenic quality for unincorporated urbanized areas of the county with respect to tree removal. It is understood that the tree protection ordinances for the incorporated jurisdictions would sufficiently protect trees so that scenic quality in urbanized areas would not be degraded. Therefore, impacts related to conflicts with regulations governing scenic quality in urbanized areas would be **less than significant.**

The installation of public utilities is allowed within all zoning districts. The program would be subject to applicable regulations and standards governing public utilities, as specified in the Nevada County Code, City of Grass Valley Code of Ordinances, Nevada City Code of Ordinances, and Truckee Municipal Code.

As discussed above, the program would include installation of new belowground fiber conduit and access boxes along public or private roadways or in developed or previously disturbed areas. In areas where topography or underground substrate would prohibit or impede construction of subsurface fiber optic lines, aboveground fiber optic lines would be installed on existing or newly constructed utility poles. All permanent aboveground components would be consistent with existing aboveground utilities typical of urban environments.

As described under Section 2.4.2, "Construction Methods," in Chapter 2, "Project Description," individual fiber installation projects may require the removal of trees and vegetation to accommodate the installation of fiber conduit and associated infrastructure. However, in the instances where an individual fiber project could remove trees in urbanized areas, the minimal amount of tree removal that could occur would not substantially reduce scenic quality, scenic impacts would be limited to tree removal, and the extent of tree removal from any single view would be limited; thus, tree removal would not result in a potentially significant impact related to scenic quality in urbanized areas. Although individual fiber projects that could affect protected trees (e.g., landmark trees, landmark groves, heritage trees, heritage groves) would not be subject to County regulations protecting trees (see Impact 3.4-6 in Section 3.4, "Biological Resources'), project proponents would be required to comply with Mitigation Measure 3.4-6 that would reduce potentially significant impacts related to conflicts with regulations governing scenic quality for unincorporated urbanized areas of the county with respect to tree removal. It is understood that the tree protection ordinances for the incorporated jurisdictions would sufficiently protect trees so that scenic quality in urbanized areas would not be degraded with implementation of the program and individual fiber projects would not conflict with

those regulations (see the "Tree Protection Ordinances" section, above). These ordinances would be enforced through the development review process of the applicable jurisdiction and through the issuance of permits for cutting or removing protected trees.

For these reasons, the program would not conflict with regulations governing scenic quality in urbanized areas such that there would be a significant impact on scenic quality. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

CUMULATIVE IMPACTS

The cumulative setting for aesthetics impacts includes the program area and the viewsheds to and from the program area. Visual character and quality throughout the cumulative setting varies with respect to location; however, the overall cumulative setting is characteristic of forested mountain communities. Overall, the cumulative setting has a high visual quality, with viewsheds of mountain ranges and peaks, river valleys and lakes, forests and woodlands, and generally picturesque communities. Past development has been conducted in accordance with local design and zoning requirements, which has maintained cohesiveness and generally preserved the scenic quality throughout Nevada County.

The cumulative projects listed in Table 3.1-2 include roadway projects, trails projects, vegetation management, and public works projects. These types of projects generally require temporary construction activities and may result in permanent changes to the existing visual setting and viewsheds within the cumulative setting. Public works projects, such as roadway resurfacing, bridge replacement and rehabilitation, and facility renovation projects would have limited potential for aesthetic impacts because improvements would be made to existing structures. Development projects would have greater potential for aesthetic impacts through the introduction of new buildings and infrastructure that would be visible within existing viewsheds. However, new development would be required to comply with local design, zoning, and tree protection requirements to ensure that the existing visual character and quality is maintained within Nevada County. Furthermore, construction-related impacts are not expected to be cumulatively considerable because they would be temporary, short-term, and dispersed throughout the county. Therefore, the contribution to cumulative aesthetics impacts from present and reasonably foreseeable projects would be negligible.

In combination with past, present, and reasonably foreseeable projects discussed above, the program would result in minor permanent changes to the existing visual setting and viewsheds within the cumulative setting. As discussed in Section 3.2.3, most fiber optic lines would be installed belowground and would not result in visible changes to the cumulative setting. There may be some areas where aboveground fiber optic lines would be installed on existing or newly constructed utility poles; however, the aboveground utility lines and poles would be generally consistent with existing vertical and horizontal features within the cumulative setting. In addition, construction activities would be subject to local regulations, including tree protection and preservation ordinances. For a given mile of underground fiber optic cable installation, boring activities would occur over approximately 10 days and trenching activities would occur over approximately 8 to 20 days, resulting in temporary visual changes for sensitive viewer groups. These areas would be returned to conditions similar to those that existed prior to program activities. As concluded in Section 3.2.3, aesthetics impacts would be less than significant because construction and operation of the program would not block scenic views, damage scenic resources, or be inconsistent with existing visual character and quality. Any tree removal associated with individual fiber projects that could occur would not substantially reduce scenic quality or visual character throughout the program area such that there would be a potentially significant impact related to aesthetic resources. Therefore, the program's contribution to cumulative aesthetics impacts would be negligible.

Based on the discussion above, the program, in combination with past, present, and reasonably foreseeable projects, would not result in a significant impact on the cumulative aesthetic setting. Therefore, the program would have a **less than cumulatively considerable impact** related to aesthetics.

3.3 ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

This section analyzes and evaluates the potential impacts of the program on known and unknown cultural resources. Cultural resources include districts, sites, buildings, structures, or objects generally older than 50 years and considered to be important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. They include pre-historic resources, historic-period resources, and "tribal cultural resources" (the latter as defined by Assembly Bill (AB) 52, Statutes of 2014, in Public Resources Code [PRC] Section 21074).

Archaeological resources are locations where human activity has measurably altered the earth or left deposits of prehistoric or historic-period physical remains (e.g., stone tools, bottles, former roads, house foundations). Historical (or built-environment) resources include standing buildings (e.g., houses, barns, outbuildings, cabins) and intact structures (e.g., dams, bridges, roads, districts), or landscapes. A cultural landscape is defined as a geographic area (including both cultural and natural resources and the wildlife therein), associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values. Tribal cultural resources are sites, features, places, cultural landscapes, sacred places and objects, with cultural value to a tribe.

One comment letter regarding cultural resources was received in response to the Notice of Preparation (see Appendix A). The Native American Heritage Commission (NAHC) requested AB 52 and SB 18 compliance information; SB 18 does not apply to the program because no General Plan amendment is proposed (which is the trigger for SB 18 compliance).

3.3.1 Regulatory Setting

FEDERAL

National Register of Historic Places

The National Register of Historic Places (NRHP) is the nation's master inventory of known historic properties. It is administered by the National Park Service and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level.

The formal criteria (36 CFR 60.4) for determining NRHP eligibility are as follows:

1. The property is at least 50 years old (however, properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included in the NRHP);
2. It retains integrity of location, design, setting, materials, workmanship, feeling, and associations; and
3. It possesses at least one of the following characteristics:

   Criterion A Is associated with events that have made a significant contribution to the broad patterns of history (events).

   Criterion B Is associated with the lives of persons significant in the past (persons).

   Criterion C Embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant, distinguishable entity whose components may lack individual distinction (architecture).

   Criterion D Has yielded, or may be likely to yield, information important in prehistory or history (information potential).

For a property to retain and convey historic integrity it must possess most of the seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association. Location is the place where the historic property was constructed or the place where a historic event occurred. Integrity of location refers to whether the property has been moved since its construction. Design is the combination of elements that create the form, plan, space, structure, and style of a property. Setting is the physical environment of a historic property that illustrates the character of the place. Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property. Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory. Feeling is a property's expression of the aesthetic or historic sense of a particular period of time. This is an intangible quality evoked by physical features that reflect a sense of a past time and place. Association is the direct link between the important historic event or person and a historic property. Continuation of historic use and occupation help maintain integrity of association.

Listing in the NRHP does not entail specific protection or assistance for a property but it does guarantee consideration in planning for federal or federally assisted projects, eligibility for federal tax benefits, and qualification for federal historic preservation assistance. Additionally, project effects on properties listed in the NRHP must be evaluated under CEQA.

The National Register Bulletin series was developed to assist evaluators in the application of NRHP criteria. For example, National Register Bulletin #36 provides guidance in the evaluation of archaeological site significance. If a property cannot be placed within a particular theme or time period, and thereby lacks "focus," it will be unlikely to possess characteristics which would make it eligible for listing in the NRHP. Evaluation standards for linear features (such as roads, trails, fence lines, railroads, ditches, and flumes) are considered in terms of four related criteria that account for specific elements that define engineering and construction methods of linear features: (1) size and length, (2) presence of distinctive engineering features and associated properties, (3) structural integrity, and (4) setting. The highest probability for NRHP eligibility exists in the intact, longer segments, where multiple criteria coincide.

STATE

California Register of Historical Resources

All properties in California that are listed in or formally determined eligible for listing in the NRHP are also listed in the California Register of Historical Resources (CRHR). The CRHR is a listing of State of California resources that are significant in the context of California's history. It is a Statewide program with a scope and with criteria for inclusion similar to those used for the NRHP. In addition, properties designated under municipal or county ordinances are also eligible for listing in the CRHR.

California Historical Landmarks (CHL), buildings, structures, sites, or places that have been determined to have statewide historical significance, are also automatically listed in the CRHR. California Points of Historical Interest (PHI) are sites, buildings, features, or events that are of local (city or county) significance. PHIs designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR.

To be eligible for designation as a CHL, a resource must meet at least one of the following criteria:

- be the first, last, only, or most significant of its type in the state or within a large geographic region (Northern, Central, or Southern California);
- be associated with an individual or group having a profound influence on the history of California; or
- be a prototype of, or an outstanding example of, a period, style, architectural movement or construction, or is one of the more notable works or the best surviving work in a region of a pioneer architect, designer or master builder.

To be eligible for designation as a PHI, a resource must meet at least one of the following criteria:

- be the first, last, only, or most significant of its type within the local geographic region (city or county);
- be associated with an individual or group having a profound influence on the history of the local area; or

- be a prototype of, or an outstanding example of, a period, style, architectural movement or construction, or be one of the more notable works or the best surviving work in the local region of a pioneer architect, designer or master builder.

A historical resource must be significant at the local, state, or national level under one or more of the criteria defined in the California Code of Regulations Title 15, Chapter 11.5, Section 4850 to be included in the CRHR. The CRHR criteria are tied to CEQA because any resource that meets the criteria below is considered a significant historical resource under CEQA. As noted above, all resources listed in or formally determined eligible for listing in the NRHP are automatically listed in the CRHR.

The CRHR uses four evaluation criteria:

Criterion 1. Is 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 2. Is associated with the lives of persons important to local, California, or national history.

Criterion 3. Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values.

Criterion 4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Similar to the NRHP, a historical resource must meet one of the above criteria and retain integrity to be listed in the CRHR. The CRHR uses the same seven aspects of integrity used by the NRHP.

California Environmental Quality Act

CEQA requires public agencies to consider the effects of their actions on "historical resources," "unique archaeological resources," and "tribal cultural resources." Pursuant to PRC Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether projects would have effects on unique archaeological resources. PRC Section 21084.2 establishes that "[a] project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment."

Historical Resources

"Historical resource" is a term with a defined statutory meaning (PRC Section 21084.1; State CEQA Guidelines Sections 15064.5[a] and [b]). Under State CEQA Guidelines Section 15064.5(a), historical resources include the following:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the CRHR (PRC Section 5024.1).
2. A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g), will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a 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 the resource meets the criteria for listing in the CRHR (PRC Section 5024.1).
4. The fact that a resource is not listed in or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC Section 5020.1[k]), or identified in a historical resources survey (meeting the criteria in PRC Section 5024.1[g]) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

Unique Archaeological Resources

CEQA also requires lead agencies to consider whether projects will affect unique archaeological resources. PRC Section 21083.2(g) states that "unique archaeological resource" means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one or more of the following criteria:

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

Tribal Cultural Resources

CEQA also requires lead agencies to consider whether projects will affect tribal cultural resources. PRC Section 21074 states:

a) "Tribal cultural resources" are either of the following:

   1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

      A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

      B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

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

b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Public Resources Code Section 21080.3

AB 52, signed by the California Governor in September of 2014, established a new class of resources under CEQA: "tribal cultural resources," defined in PRC Section 21074. Pursuant to PRC Sections 21080.3.1, 21080.3.2, and 21082.3, lead agencies undertaking CEQA review must, upon written request of a California Native American Tribe, begin consultation before the release of an EIR, negative declaration, or mitigated negative declaration.
PRC Section 21080.3.2 states:

> Within 14 days of determining that a project application is complete, or to undertake a project, the lead agency must provide formal notification, in writing, to the tribes that have requested notification of proposed programs in the lead agency's jurisdiction. If it wishes to engage in consultation on the project, the tribe must respond to the lead agency within 30 days of receipt of the formal notification. The lead agency must begin the consultation process with the tribes that have requested consultation within 30 days of receiving the request for consultation. Consultation concludes when either: 1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource, or 2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.

If the lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource, and measures are not otherwise identified in the consultation process, provisions under PRC Section 21084.3 (b) describe mitigation measures that may avoid or minimize the significant adverse impacts. Examples include:

(1) Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

(2) Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

   (A) Protecting the cultural character and integrity of the resource

   (B) Protecting the traditional use of the resource

   (C) Protecting the confidentiality of the resource.

(3) Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

(4) Protecting the resource.

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural, and Sacred Sites Act (PRC Section 5097.9) applies to both State and private lands. The act requires, upon discovery of human remains, that construction or excavation activity cease and that the county coroner be notified. If the remains are those of a Native American, the coroner must notify the NAHC, which notifies and has the authority to designate the most likely descendant of the deceased. The act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

Health and Safety Code, Sections 7050.5

Section 7050.5 of the Health and Safety Code requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If they are determined to be those of a Native American, the coroner must contact NAHC.

Public Resources Code, Section 5097

PRC Section 5097 specifies the procedures to be followed if human remains are unexpectedly discovered on nonfederal land. The disposition of Native American burials falls within the jurisdiction of NAHC. Section 5097.5 of the code states:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

LOCAL

Nevada County General Plan

The 1995 Nevada County General Plan (Nevada County 1995 [amended in 2008, 2010, 2014]) contains a Cultural Resources Element in Chapter 19, which addresses historical, archaeological, and cultural resources. The cultural resources goals and policies of the General Plan are focused on identifying and protecting the County's cultural resources as an important part of the County's legacy to future generations. Toward this goal, the County has established the following objectives, each of which detail directive policies:

- **Policy 19.1.** Encourage the inventory, protection and interpretation of the cultural heritage of Nevada County, including historical and archaeological landscapes, sites, buildings, features, artifacts.

- **Policy 19.2.** Implement development standards, including the preservation of open space, to protect identified significant cultural sites.
- **Policy 19.3.** Include in the development review process consideration of historic, cultural, and native American concerns and values.

City of Grass Valley General Plan

The Historical Element of the 2020 Grass Valley General Plan (City of Grass Valley 1999) has adopted goals, objectives, polities, and implementation measures aimed at the preservation and enhancement of historical and cultural resources within the City. The Historical Element recognizes the rich heritage from the Gold Rush of 1849, subsequent mining, and the valuable historical resources that still remain as a reminder of the City's legacy. Relevant historical goals and policies include the following:

GOAL: Conserve and enhance the historical identity of Grass Valley.

- **Policy 10-HP:** Where historic and prehistoric cultural resources have been identified, the City shall require that development be designed to protect such resources from damage, destruction, or defacement.
- **Policy 11-HP:** If previously undiscovered cultural resources or human remains are encountered during construction or excavation, the procedures identified in Section 154064.5 of the State CEQA Guidelines shall be followed.

Further, within the 1872 Historic Townsite, the City of Grass Valley's Historic Preservation Ordinance (No. 742) established regulations and procedures for the protection, enhancement and preservation of properties, structures, sites, artifacts, and other cultural resources that represent significant and distinctive elements. This includes the City's cultural, educational, social, economic, political, and architectural history.

Nevada City General Plan

The 1986 Nevada City General Plan (Nevada City 1986 [amended in 2008, 2009, 2014]) notes the single most important purpose is to preserve the existing character and essence of the City. The Historic Preservation element of the General Plan recognizes the importance of the Gold Rush as it strongly influences the historic character of both the city and its setting. Goals relating to historic preservation include the following:

- The City aims to continue its efforts to preserve and enhance the architectural diversity of historic buildings in the central area, to maintain the remarkable collection of city-owned historic buildings and to encourage private efforts of historic preservation and restoration.
- Whereas many other Mother Load towns are being surrounded by modern subdivisions and commercial development, the Nevada City Basin remains nearly pristine. The city seeks means to preserve its sense of a historic town surrounded by open forest.
- As a city grows and new buildings are added outside the historic district, it is the City's aim to encourage design which is appropriate to our own age, but which is unassertive, allowing the dominance of the City's primary, nineteenth-century historic period.

Further, Nevada City adopted a Historical Ordinance (No. 338) in 1968 to protect the town, the architecture, and its history. The ordinance established guidelines for retention and rehabilitation of the elements that constitute the historical and architectural character of the 19th century buildings in the Nevada City Historical District.

Town of Truckee General Plan

The purpose of the Town of Truckee 2025 General Plan (Town of Truckee 2006) is to guide development and conservation in the Town of Truckee through 2025, by establishing a policy basis for decision making. Among the Town of Truckee General Plan Community Character Element guiding principles and policies is the goal to identify and protect Truckee's historic and cultural resources. The Town of Truckee adopted a Historic Preservation Program that primarily addresses design guidelines. The duties and responsibilities of the Historic Preservation Advisory Commission are set forth in Council Resolution No. 99-48 and include maintaining a local inventory of all properties that have been designated as historic or cultural heritage resources.

3.3.2 Environmental Setting

REGIONAL PREHISTORY

The framework that provides the foundation for the prehistoric record of Nevada County, which extends from the Sierra Nevada foothills east through the high Sierra Nevada mountains, is divided into three broad temporal periods that each reflect similar cultural characteristics: Paleo-Indian, Archaic, and Late Prehistoric. The Archaic is then generally subdivided into regional chronologies that define technological, economic, social and ideological elements. A variety of chronological schemes relevant to the County area have been applied by researchers to the foothills and north-central Sierran region (NIC 2022).

The earliest accepted archaeological evidence of human occupation during the Paleo-Indian Period (11,550–8550 cal B.C.E. [calibrated before common era]; calibration is used to convert the laboratory determination of carbon-dated materials to calendar years) is relatively sparse and scattered throughout the state. Although fluted Clovis-like projectile points associated with the Paleo-Indian Period have been found in the Coast Ranges, the Central Valley, and the Sierra Nevada, none have been confirmed in the County. The subsequent Lower Archaic Period (8550–5550 cal B.C.E.) is represented mainly by isolated stemmed projectile points or chipped stone crescents, with only a few points identified on the western slope of the north-central Sierran region, and a few archaeological sites in the foothills and the southern Central Valley (NIC 2022).

The Middle Archaic Period (5550–550 cal B.C.E.) is marked by the advent of distinctive regional cultural patterns, such as the Martis Complex in the Tahoe-Truckee region. The archaeological assemblages indicate populations were increasingly sedentary, as shown by refined and specialized tool assemblages and features, evidence of basketry, a wide range of non-utilitarian artifacts, and objects obtained through an established coastal and trans-Sierran trade network. These groups consumed a variety of animals, plants, and fish and followed a seasonal foraging strategy that generally entailed movements between the uplands in the spring and summer and lower elevations in the fall and winter (NIC 2022).

After 2,700 years ago during the Upper Archaic Period (550 cal B.C.E.–cal C.E 1100), early human access to more specialized technology resulted in innovations with new types of shell beads, bone tools, ceremonial blades, and charmstones. This period is better represented and understood than the previous time periods. Regional variation in subsistence practices focused on seasonally available resources that were harvested and processed in bulk (e.g., acorns, salmon, shellfish, rabbits, and deer). Mortars and pestles, as well as boulder and bedrock mortars and pitted stones, are more common, while handstones and slab millingstones generally decrease in number. In the Early Kings Beach Complex of the Tahoe-Truckee region, the beginning of the Upper Archaic coincides with the use of smaller projectile points that indicate bow and arrow use. The distribution of obsidian and coastal shell beads and ornaments, as well as projectile points diagnostic of high Sierran manufacture, indicates exchange of commodities continued to be widespread (NIC 2022).

The diversity and number of artifacts and the number of archaeological sites increased after 1,000 years ago during the Late Prehistoric Period. An increase in population and sedentism of the population led to the development of social stratification, with an elaborate ceremonial and social organization. Large villages and smaller satellite communities developed along the major tributaries in the valley and foothills. At some valley and foothills sites, the archaeological deposits preserved house floors or other structural remains. The occurrence of flanged tubular pipes and baked clay effigies representing humans and animals are examples of items associated with ceremonials and rituals. The extensive exchange networks present during this period were facilitated by the use of clamshell disk beads as a form of currency. The cultural patterns typical of the Late Prehistoric Period also begin to reflect the cultural traditions known from historic period Native American groups (NIC 2022).

ETHNOGRAPHY

Two indigenous California groups historically inhabited the County: Nisenan (also referred to as Southern Maidu) territory extended east to the crest of the Sierra Nevada Range, while the adjacent eastern flank of the Sierra Nevada,

including the Tahoe-Truckee region, was within the traditional territory of the Washoe. These complex hunter-gatherer groups also relied on a wide range of abundant natural resources available in their territories, which they hunted, fished, or collected using a variety of tools, implements, and enclosures. Material culture also included a variety of ornamental and ceremonial items, and networks of foot trails connected groups to hunting or plant gathering areas, villages, ceremonial places, and distant trade networks. Presently, there are no designated tribal lands in Nevada County (NIC 2022).

Nisenan

The historic territory occupied by the Nisenan extended from the North Fork Yuba River south to the Cosumnes River, and east from the Sutter Buttes to the crest of the Sierra Nevada Range. The Sutter Buttes, known as Histum Yani or Spirit Mountain, are where the spirits of their people rest before journeying to the afterlife. Nisena-n ("from among us") was used as a self-designation by those inhabiting the Yuba and American river drainages. Ethnographers have distinguished three main Nisenan dialects: Northern Hill, Southern Hill, and Valley. The Hill Nisenan inhabited the foothills and into the high Sierra. Settlement locations for groups of Hill Nisenan depended primarily on elevation, exposure, and proximity to water and other resources. Small villages were usually located on the ridges along major streams. The main villages had roundhouses that were the social and ceremonial centers of the community, plus a nearby burial ground. Community networks were interlinked by kinship ties. The economy was based on the seasonal bounty of flora and fauna provided by the rich foothill environment, with seasonal movement into the higher elevations during the hot, summer months (NIC 2022).

The traditional culture and lifeways of the Nisenan were disrupted beginning in the early 1800s. Although Spanish explorers entered Nisenan territory as early as 1808, there is no record of the forced movement of Nisenan to the missions. During the Mexican Period, native peoples were affected by land grant settlements and decimated by foreign disease epidemics that swept through the densely populated Central Valley in the 1830s. The discovery of gold in the heart of Nisenan territory in 1848 followed by a vast influx of immigrants had a devastating impact on the lives of remaining Nisenan and other indigenous Californians in the Central Valley and all along the Sierra Nevada foothills. There are no Nisenan tribal lands in Nevada County. The Nevada City Rancheria Nisenan are working toward restoration of their federal recognition (NIC 2022).

Washoe

The ethnographic territory occupied by the Washoe included the eastern extent of Nevada County, eastward from the crest of the Sierra Nevada Range to the California-Nevada state line and is within the traditional territory of the northern Washoe, or *Wélmelti'*. The Lake Tahoe area remains the nucleus of Washoe territory and is considered by the Washoe to be the "physical and spiritual center of the Washoe world." Prehistoric remains in the traditional Washoe territory are considered by the Washoe to be of their direct ancestors. Washoe Tribe members point to the lack of an oral tradition of migration or mass movement to support that the prehistoric history of the Tahoe Basin is the history of the Washoe Tribe (NIC 2022).

Due to their remoteness in the high Sierra and because they stayed away from early settlers, there are few records of the Washoe until after the 1849 California gold rush and 1858 Nevada silver strike. The bulk of information begins around the turn of the twentieth century and since that time, considerable ethnographic work with the Washoe has been accomplished, which continues today. The ethnographic Washoe engaged in a seasonal round, relying on a diverse range of resources (fish, animals, plants, waterfowl) that were harvested at specific times of the year. This seasonal round was flexible depending upon the availability or abundance of resources. Groups dispersed as much as 20 to 40 miles in any direction outside their core area to collect seasonally available foods (e.g., acorns, pine nuts, spawning fishes), trekking as far west as Grass Valley for acorns. There was a tendency to live on the lakeshores or other lower elevation areas during colder times and move up to higher elevations in warmer times. Year-round settlements were also maintained in small valleys, such as the upper reaches of the Truckee River near Donner Lake. There are no Washoe tribal lands in Nevada County. Today, members of the federally recognized Washoe Tribe live on five reservations in the state of Nevada (NIC 2022).

HISTORIC SETTING

Post-contact history for the State of California generally is divided into three specific periods: the Spanish Period (1769–1822), Mexican Period (1822–1848), and American Period (1848–present). Although there were brief visits by Spanish, Russian, and British explorers from 1529 to 1769, the beginning of Spanish settlement in California occurred in 1769 at San Diego. Between 1769 and 1823, 21 missions were established by the Spanish and the Franciscan Order along the coast between San Diego and San Francisco. The Mexican Period is marked by an extensive era of land grants, mainly in the interior of the state—although none were awarded in Nevada County—as well as by exploration by American fur trappers west of the Sierra Nevada Mountains. In 1826, Jedediah Smith was the first trapper to enter California over the Sierra Nevada (NIC 2022).

In Nevada County, the early explorations during the Spanish and Mexican periods were limited. In 1844, the first emigrant group to cross the Sierra Nevada by wagon (the Stevens-Murphy-Townsend Party) followed the California Trail, a branch of the Emigrant Trail also known as the Truckee Route, which followed the Truckee River Valley in Nevada westward through Donner Pass. Although hundreds of emigrant groups traversed this route, the most famous is the Donner Party in the winter of 1846/1847. The American Period was initiated in 1848 with the signing of the Treaty of Guadalupe Hidalgo, which ended the two-year Mexican-American War (1846-1848), and California became a territory of the United States. Gold was discovered at Sutter's Mill on the American River in Coloma the same year, and by 1849, nearly 90,000 people had journeyed to the gold fields. In 1850, largely as a result of the Gold Rush, California became the thirty-first state (NIC 2022).

Thousands of emigrants, some of whom stayed in Nevada County, traveled westward through the Truckee/Donner Gateway on the Truckee Route of the Emigrant Trail. The County was formed in 1851 from territory that was part of Yuba County, and named after the mining town of Nevada City, which was made the county seat. Although gold seekers used other, easier cross-Sierran routes after 1849, such as Carson Pass and Johnson's Cutoff, Nevada County was soon established as the heart of the region known as the "Northern Mines." Prospectors found gold along the South and Middle Forks of the Yuba River and along Deer, Bear, and Wolf creeks, along which small mining camps, such as Deer Creek Dry Diggings (Nevada City) Rough and Ready, Eureka South (Graniteville), Frenchman's Bar, and Liar's Flat (Rice Crossing), blossomed (NIC 2022).

As the surface diggings were played out, the river-bar camps and small prospects were replaced by larger mining companies. In the early 1850s, Grass Valley became the center of hardrock mining. In 1878, the first Pelton Wheel, which revolutionized hydroelectric power production, was installed in the Mayflower Mine in Nevada City. Mining continued to thrive until World War II when all gold mines in the nation were ordered to close to redirect personnel to the mining of base metal for the war effort. Mining technology in the region also included hydraulic mining, which was first used near Nevada City in 1853, until it was outlawed in the 1880s. The courses of streambeds were drastically altered as the landscapes were carved by water from high-pressure monitors, and huge quantities of sediments were washed downstream into valley farmlands and towns (NIC 2022).

With completion of the transcontinental railroad in 1869, thousands of settlers and immigrants continued to pour into California. The Central Pacific Railroad (later Southern Pacific; now Union Pacific) had conquered the Sierra summit in 1868, pulling its first locomotive into Truckee. The town was an advance camp for the construction crew that soon became an important rail juncture between the two coasts. Logging, transportation, and agriculture, as well as ice production, supported the mining industry throughout the early Gold Rush era and later discovery in 1859 of silver on the Comstock in Nevada. Between 1868 and the 1920s, the main products shipped by rail from Truckee were lumber and ice from dozens of mills and ice companies that flourished in the Truckee-Donner area. The Nevada County Narrow Gauge Railroad, which had been established for mining operations and connected to the Southern Pacific, also provided commercial and passenger service from Nevada City through Grass Valley to Colfax from 1876 until 1943 (NIC 2022).

The entry of automobiles around 1910 and the establishment during the 1930s of a statewide network of engineered and major routes, stimulated regional population growth. In 1928, the Lincoln Highway—the pioneering transcontinental automobile road from New York to San Francisco, a part of which traversed Nevada County—was incorporated as part of the numbered Federal Highway system and designated US Highway 40. In 1963, portions of

two-lane US Highway 40 were incorporated into the new interstate highway system and became four-lane Interstate-80 (NIC 2022).

The County has three incorporated cities: Grass Valley, Nevada City, and Town of Truckee. These three areas still retain historic buildings from the County's mid-1800s development. Approximately two-thirds of the County's population lives in rural unincorporated areas. Public lands, including Tahoe National Forest, constitute 30 percent of the County's landmass. Recreation and tourism contribute to the County's economy as it transitions from a predominantly rural resource base (timber, mining, farming, and ranching) to a more varied and diverse population and economic base (NIC 2022).

KNOWN ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES IN NEVADA COUNTY

Archaeological Resources

The variety of archaeological resources generally present in the County include prehistoric sites, historic-era archaeological sites, and sites with both prehistoric and historic-era components. The County's archaeological resource base is rich and exceptionally complex, reflecting the varied environmental zones, geological characteristics, and geographical position of the land that extends from the foothills into the high Sierra Nevada.

Prehistoric site types in the County include, but are not limited to, villages or habitation sites, human burials, lithic scatters, bedrock mortar milling features, petroglyphs, toolstone quarries, and fishing stations. Historic-era archaeological sites in the County typically date to the Gold Rush era and early Euro-American settlement. Categories of historical archaeological property types identified within the County include mining sites, building or structure foundations, refuse scatters and dumps, transportation-related features, logging-related features, emigrant trails, water conveyance systems, ranching and agricultural features, and the ice industry. Areas sensitive for archaeological resources by the County are generally located less than one quarter mile from a source of water (streams, lakes, rivers) between 400 and 3,000 feet above mean sea level on the west side of the Sierra Nevada. In areas with substantial disturbance of native soils from historical mining activities, the potential for intact prehistoric archaeological sites to be present is very low but may be high for historic-era archaeological sites.

The Archaeological Determinations of Eligibility (DOE) is the master list maintained by the Office of Historic Preservation (OHP) that includes all archaeological resources evaluated for their historic significance as properties that appear eligible for listing, have been determined eligible for listing, or are listed in the NRHP or CRHR. The DOE was reviewed to provide a broad overview of the number of significant archaeological resources located in the County. Table 3.3-1 includes the number of archaeological resources in the County listed in or eligible for listing in the NRHP and CRHR, and those sites, if any, identified as historically significant by local agencies and listed in the DOE. Because the DOE is updated as new resources are continuously located or reevaluated, the table should not be considered final, but is the most comprehensive listing available as of April 2012, when the DOE for Nevada County was last updated by OHP. It is also important to note that the exact location of archaeological resources in the County is confidential and disclosure is restricted by federal and state laws.

Table 3.3-1 Archaeological Resources in Nevada County

Eligible for Listing in the NRHP or CRHR	Listed in NRHP and CRHR	Recognized as Historically Significant by Local Government
34	8	0

Source: NIC 2022.

Historical Resources

Numerous historical resources (built environment) are located throughout the County. Historical resources generally include buildings, roads, trails, bridges, canals, levees, and railroads usually associated with the historic era beginning with the first Euro-American contact and attaining at least 50 years of age. These built environment resources are commonly associated with key historic events that occurred in the region, including the Gold Rush, hydraulic and

dredge mining, agriculture, irrigation, and transportation. In general, concentrations of historic built environment resources in the County occur:

- within historic neighborhoods and business districts;
- adjacent to transportation corridors (i.e., historic trails, highways, railroads, navigable streams);
- on historic ranches; and
- in areas of historic-era rock, soil, and mineral extraction.

The Built Environment Resources Directory (BERD), maintained for each county by OHP, is an inventory of all non-confidential built environment properties that have been processed through that office that have been evaluated for their historic significance as properties that appear eligible for listing, have been determined eligible for listing, or are listed in the NRHP or CRHR. The BERD provided a broad overview of the number and types of eligible or listed historical resources located in the County. Tables 3.3-2 through 3.3-6 list the number of individually eligible historical resources, historic districts, CHLs, and PHIs located within the County. Because the BERD is updated as new resources are continuously located and evaluated through survey work and other means, and as resources generally reach 50 years of age, the following tables should not be considered final, but are the most available comprehensive compilation.

Table 3.3-2 Built Environment Historical Resources in Nevada County

Properties Listed in the NRHP or CRHR	Properties Determined Eligible for Listing in the NRHP or CRHR	Properties That Appear Eligible for NRHP or CRHR through Survey Evaluation	Properties Recognized as Historically Significant by Local Government
162	31	146	43

Source: NIC 2022.

Table 3.3-3 includes the six historic districts located in the County that are listed in the NRHP or CRHR. As indicated in the table, no additional properties in the inventory were determined eligible or appearing eligible for listing in the NRHP or CRHR or recognized as historically significant by local governments, that were not already listed in the NRHP or CRHR. A historic district is an identifiable entity that contains elements such as a group of residential buildings that contribute to the district's historic character. The historic districts listed in the table comprise resources including, but not limited to, groupings of residential and commercial buildings, structures (such as covered bridge, dams, and tramway), and mining and railroad facilities. The table provides the name and general location of the six historic districts; it does not provide a count of individual or contributing resources.

Table 3.3-3 Historic Districts Located in Nevada County

City/Location	District Name	Listed in:		Determined Eligible or Appears Eligible for NRHP or CRHR	Recognized as Historically Significant by Local Government
		NRHP	CRHR		
Grass Valley	Empire Mine Historic District	X	X	--	--
Nevada City	Nevada City Downtown Historic District	X	X	--	--
Penn Valley	Bridgeport Historic District	X	X	--	--
Tahoe National Forest	Drum-Spaulding Hydroelectric Historic District	X	X	--	--
Truckee	Commercial Row-Brickelltown Historic District	X	X	--	--
Washington	Malakoff Diggings- North Bloomfield Historic District	X	X	--	--

Source: NIC 2022.

CHLs and PHIs are sites, buildings, features, or events that are of statewide or local significance, respectively, and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Tables 3.3-4 and 3.3-5 list the 20 CHLs and 32 PHIs located in the County.

Table 3.3-4 California Historical Landmarks Located in Nevada County

City/Location	CHL #	Name
French Corral	247	World's First Long Distance Telephone Line
Grass Valley	298	Empire Mine
Grass Valley	914	Holbrooke Hotel
Grass Valley	292	Home of Lola Montez
Grass Valley	293	Home of Lotta Crabtree
Grass Valley	294	Little Town of Rough and Ready
Grass Valley	855	Mount Saint Mary's Convent and Academy
Grass Valley	843	North Star Mine Powerhouse
Grass Valley	799	Overland Emigrant Trail
Grass Valley	297	Site of One of First Discoveries of Quartz Gold in California
Nevada City	1012	First Manufacturing Site of the Pelton Wheel
Nevada City	899	National Hotel
Nevada City	863	Nevada Theatre
Nevada City	852	North Bloomfield Mining and Gravel Company
Nevada City	832	South Yuba Canal Office
Penn Valley	390	Bridgeport Historic District
Truckee	134	Donner Pioneer Monument
Truckee	780	First Continental Railroad
Washington	628	Alpha Hydraulic Diggings
Washington	629	Omega Hydraulic Diggings and Townsite

Source: NIC 2022.

Table 3.3-5 California Points of Historical Interest in Nevada County

City/Vicinity	PHI#	Name	On NRHP
Donner Lake	P709	Donner Summit Bridge	--
Grass Valley	P402	Caroline Hansen House	--
Grass Valley	P547	Dr. W. C. Jones Home	--
Grass Valley	P246	Emmanuel Episcopal Church	--
Grass Valley	P242	Gilmore Air Field	--
Grass Valley	P640	Idaho-Maryland Mine Site	--
Grass Valley	P802	Old Bear River Bridge	--
Grass Valley	P603	Root Cellar on Mexican War Land Grant	--
Grass Valley	P247	The Union-Grass Valley Newspaper	--
Nevada City	P305	A. A. Sargent Residence, Sargent-Freeman Residence	--
Nevada City	P382	Aaron Baruh House	--
Nevada City	P273	American Hill Diggings	--
Nevada City	P839	Bridge #17C-24/ Purdon Bridge	--
Nevada City	P304	Caldwell's Upper Store Site	--
Nevada City	P194	Columbia Hill School	--

City/Vicinity	PHI#	Name	On NRHP
Nevada City	P326	Englebright House	--
Nevada City	P8	Lone Grave, The	--
Nevada City	P241	Martin Luther Marsh House	--
Nevada City	P324	Pioneer Cemetery	--
Nevada City	P325	Plaza Grocery	--
Nevada City	P191	Red Castle, The	--
Nevada City	N2143	Red Dog Townsite	X
Nevada City	P257	Searls Historical Library	--
Nevada City	P272	William Morris Stewart House	--
Nevada City	P400	You Bet Townsite	--
North San Juan	P401	Foote's Crossing	--
North San Juan	P248	North San Juan Methodist Episcopal Church	--
North San Juan	P710	North San Juan School Site	--
Truckee	P610	Boca Ice Harvest Site	--
Truckee	P193	Truckee Jail	--
Truckee	P192	Western Skisport Museum	--
Washington	P604	Town of Washington	--

Source: NIC 2022.

Table 3.3-6 lists the historic bridges located in the County presently recorded in the Caltrans state and local bridge inventories. Bridges listed in, or formally determined eligible for listing in, the NRHP are automatically listed in the CRHR. Caltrans last updated the original statewide inventory in 2015, which evaluated most of the state highway and local roadway bridges constructed prior to 1975. The current 2021 inventory also includes subsequent evaluations required for individual bridge improvement projects.

Table 3.3-6 Historic Bridges in Nevada County

Bridge Name	Year Built	Location	Bridge #	State of California Bridge		Local Agency Bridge	
				Listed in NRHP	Determined Eligible for NRHP	Listed in NRHP	Determined Eligible for NRHP
South Yuba River (Edwards Crossing Bridge)	1904	Bloomfield Road	17C0006	--	--	--	X
Wolf Creek[1]	1915	Auburn Road	17C0020	--	--	--	X
South Yuba River (Purdon Crossing Bridge)	1900	Purdon Road	17C0024	--	--	--	X
Canyon Creek[1]	1915	Maybert Road	17C0030	--	--	--	X
Donner Summit	1924	Donner Pass Road	17C0052	--	--	--	X

[1] Wolf Creek Bridge and Canyon Creek Bridge are no longer extant.

Source: NIC 2022; Bridgehunter.com 2022a; 2022b.

Tribal Cultural Resources

Native American Consultation

On December 8, 2021, the County sent letters to the following tribal representatives, pursuant to PRC Section 21080.3.2:

- Shelly Covert, Nevada City Rancheria Nisenan Tribe
- Regina Cuellar, Chairwoman, Shingle Springs Band of Miwok Indians
- Don Ryberg, Chairperson, T`si Akim Maidu Tribal Council
- Gene Whitehouse, Chairman, United Auburn Indian Community of the Auburn Rancheria
- Neil Mortimer, Washoe Tribe of Nevada and California

On January 4, 2022, UAIC responded, requesting consultation and maps of the location of program features to better ascertain the cultural sensitivity of the overall program area. The County met with UAIC on April 4, 2022 to discuss project details, tribal concerns, and potential mitigation measures. On August 15, 2022, the County sent proposed mitigation measures to UAIC for their input. These mitigation measures are included below. Consultation is ongoing. No other tribe responded to the AB 52 notification.

Sacred Lands File Search

A search of the Sacred Lands File from the NAHC was requested. Positive results were returned on February 16, 2022.

3.3.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

The analysis is informed by the provisions and requirements of federal, state, and local laws and regulations that apply to cultural resources. For the purposes of the impact discussion, "historical resource" is used to describe built-environment historic-period resources. Archaeological resources (both prehistoric and historic-period), which may qualify as "historical resources" pursuant to CEQA, are analyzed separately from built-environment historical resources.

PRC Section 21083.2(g) defines a "unique archaeological resource" as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one or more of the following CRHR-related criteria: (1) that it contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information; (2) that it as a special and particular quality, such as being the oldest of its type or the best available example of its type; or (3) that it is directly associated with a scientifically recognized important prehistoric or historic event or person. An impact on a resource that is not unique is not a significant environmental impact under CEQA (State CEQA Guidelines Section 15064.5[c][4]). If an archaeological resource qualifies as a resource under CRHR criteria, then the resource is treated as a unique archaeological resource for the purposes of CEQA.

PRC Section 21074 defines "tribal cultural resources" as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" that are listed or determined eligible for listing in the CRHR, listed in a local register of historical resources, or otherwise determined by the lead agency to be a tribal cultural resource.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines, the program would result in a significant impact on cultural resources if it would:

- cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5 of the State CEQA Guidelines;
- cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines;
- cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC 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; or
- substantially disturb human remains, including those interred outside of formal cemeteries.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: Cause a Substantial Adverse Change in the Significance of a Historical Resource

It is possible that fiber conduit installation could occur on the County's three bridges that have been determined eligible for listing in the NRHP and CRHR. While it is unlikely that the installation of a 4- to 6-inch galvanized iron pipe would result in a disturbance or alteration of existing features such that a change in a bridge's historical significance would result, the possibility remains. This impact would be **potentially significant**.

Historical (or architectural) resources include standing buildings (e.g., houses, barns, cabins) and intact structures (e.g., dams, bridges). Nevada County contains a variety of historic resources, including federal and state recognized resources. Historic resources within the county generally include property types ranging from buildings, roads, trails, bridges, canals, levees, and railroads associated with key historic events that occurred in the region, including the Gold Rush, hydraulic and dredge mining, agriculture, irrigation, and transportation.

As of September 2021, 162 structures, buildings, and sites in the county have been listed in the NRHP and CRHR, another 177 have been determined eligible or evaluated as appearing eligible, and 43 recognized as historically significant by a local government. There are six historic districts that are listed in the NRHP and CRHR. Twenty (20) resources have been listed as CHLs and 32 have been listed as PHIs. Three bridges in the County have been determined eligible for listing in the NRHP and CRHR. These resources meet the definition of historic resource under Section 15064.5(a) of the State CEQA Guidelines. The demolition, alteration, or disturbance of existing features, buildings, and structures could result in changes to or destruction of historic resources.

The program includes the installation of new fiber conduit predominantly along public or private roads and in previously disturbed and/or developed areas; however, the locations of new fiber optic line may cross some rivers and streams. For large streams or rivers, conduit may be installed on bridges for the purposes of avoidance of sensitive environmental resources. The aerial stringing may be accomplished with conduit attachment to bridges using a 4- to 6-inch galvanized iron pipe attached beneath or to the side of the bridge, depending on the age and condition of the bridge and the preferences of the agency with jurisdiction.

These program activities would not affect buildings, including CHLs and PHIs, because the fiber conduit would be located predominantly along public or private roads and in previously disturbed and/or developed areas. Similarly, these program activities would not affect historic districts because buried conduit would not be visually incompatible with a designated historic district. In instances where conduit may need to be installed on bridges, over large streams or rivers, for the purposes of avoidance of sensitive environmental resources, it is possible that this could occur on the County's three bridges that have been determined eligible for listing in the NRHP and CRHR. While it is unlikely that the installation of a 4- to 6-inch galvanized iron pipe would result in a disturbance or alteration of existing features such that a change in a bridge's historical significance would result, the possibility remains. This impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.3-1: Protect Historic Bridges

If new fiber conduit needs to be installed on Edwards Crossing Bridge (Bridge #17C0006), Purdon Crossing Bridge (Bridge #17C0024), or Donner Summit Bridge (Bridge #17C0052), the galvanized iron pipe shall be attached to the underside of the bridge in order to eliminate any visual obstruction of the bridge. If it is not possible to install the galvanized iron pipe under the bridge, it shall be installed on the side in such a way that provides maximum concealment. This could be accomplished by painting the pipe a similar color as the bridge material, installing the pipe alongside existing utility pipes on the bridge, or installing the pipe under the lip of the bridge deck or other concealed location.

Significance after Mitigation

Implementation of Mitigation Measure 3.3-1 would reduce potentially significant impacts to historical resources because mitigation would require that any fiber conduit that must be installed on historic bridges be done in a way that is visually compatible with the bridge and does not disturb or alter existing features. By providing an opportunity to avoid disturbance or alteration of existing features such that a change in a bridge's historical significance would result, this impact would be reduced to a **less-than-significant** level.

Impact 3.3-2: Cause a Substantial Adverse Change in the Significance of Unique Archaeological Resources

Installation of new fiber conduit could be located on properties that contain known or unknown archaeological resources and ground-disturbing activities could result in discovery or damage of yet undiscovered archaeological resources as defined in State CEQA Guidelines Section 15064.5. This would be a **potentially significant** impact.

As discussed above in Section 3.3.2, "Environmental Setting," evidence from previous archaeological survey work indicates that numerous archaeological sites are located throughout the County. Prehistoric sites in the County include, but are not limited to, habitation sites, burials, lithic scatters, bedrock mortar milling features, petroglyphs, and toolstone quarries. Historic-era sites in the County include, but are not limited to, mining sites, building or structure foundations, refuse scatters and dumps, transportation-related features, logging-related features, water conveyance systems, and agricultural features.

The program includes the installation of new fiber conduit predominantly along public and private roads and aboveground or underground lateral connections to private residences and businesses. Within urban areas, new conduit would be installed primarily through directional drilling (boring), with drilling access points spaced intermittently. In nonurban areas, conduits would typically be installed using a plowing technique, in which a vibratory cable plow incises the soil to a depth of 48 inches below the ground surface and the conduits are placed in the incised slit at the same time. Additionally, where fiber optic line would require installation aboveground and existing electrical infrastructure is not available, new steel poles would be installed. These ground-disturbing activities could uncover previously unknown archaeological sites. Ground disturbance could damage or destroy previously undiscovered archaeological resources, which would be a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.3-2a: Identify and Protect Archaeological Resources

During project-specific environmental review of individual broadband projects, the County (or other incorporated jurisdiction) shall define each project's area of effect for archaeological resources. The County shall determine the potential for the project to result in archaeological resource impacts, based on the extent of ground disturbance and site modification anticipated for the program. The County shall determine the level of archaeological investigation that is appropriate for the project site and activity, as follows:

- Directional Drilling
  - If directional drilling is to occur in UAIC's high sensitivity zone and has more than three bore entry/exit points (six total), then a records search will be conducted through NWIC, and a qualified archaeological professional will survey the entry/exit point areas (if not paved). If the records search is positive and is confirmed by the survey results, then a qualified professional shall be retained to monitor any ground-disturbing activities. Standard stop-work mitigation measures shall be implemented (refer to Mitigation Measure 3.3-2b). If the subsequent project has fewer than three bore entry/exit points, no protection measures are required.
  - If directional drilling is to occur in UAIC's low sensitivity zone and has more than six bore entry/exit points (12 total) then a records search will be conducted through NWIC, and a qualified archaeological professional will survey the entry/exit point areas (if not paved) if the records search result is positive. Standard stop-work mitigation measures shall be implemented (refer to Mitigation Measure 3.3-2b). If fewer than six bore entry/exit points, no protection measures are required.
- Plowing and Trenching
  - If plowing and trenching is to occur in UAIC's high sensitivity zone and the plow slot is more than 350 feet, a records search will be conducted through NWIC, and a qualified archaeological professional will survey the plow slot area (if not paved). If the records search is positive and is confirmed by the survey results, then a qualified professional shall be retained to monitor any ground-disturbing activities. Standard stop-work mitigation measures shall be implemented (refer to Mitigation Measure 3.3-2b). If less than 350 feet, no protection measures are required.
  - If plowing and trenching is to occur in UAIC's low sensitivity zone and the plow slot is more than 350 feet, a records search will be conducted through NWIC, and a qualified archaeological professional will survey if the records search result is positive. Standard stop-work mitigation measures shall be implemented (refer to Mitigation Measure 3.3-2b). If less than 350 feet no protection measures are required.
- New Poles and Access Vaults
  - If more than three new poles and access vaults are proposed in UAIC's high sensitivity zone, a records search will be conducted through NWIC, and a qualified archaeological professional will survey the areas (if not paved). If the records search is positive and is confirmed by the survey results, then a qualified professional shall be retained to monitor any ground-disturbing activities. Standard stop-work mitigation measures shall be implemented (refer to Mitigation Measure 3.3-2b). If less than three poles/vaults, no protection measures are required.
  - If more than six new poles and access vaults are proposed in UAIC's low sensitivity zone, then a records search will be conducted through NWIC, and a qualified archaeological professional will survey the areas (if not paved) if the records search is positive. Standard stop-work mitigation measures shall be implemented (refer to Mitigation Measure 3.3-2b). If less than six poles/vaults, no protection measures are required.
- Micro Trenching
  - No protection measures are required.

Mitigation Measure 3.3-2b: For All Ground-Disturbing Construction Activities, Halt Ground Disturbance Upon Discovery of Subsurface Archaeological Features

In the event that any prehistoric or historic-period subsurface archaeological features or deposits, including locally darkened soil ("midden"), that could conceal cultural deposits are discovered during construction, all ground-disturbing activity within 100 feet of the find shall be halted and a qualified professional archaeologist shall be retained to assess the significance of the find. If the qualified archaeologist determines the archaeological material to be Native American in nature, the applicant shall contact the appropriate Native American tribe for their input on the preferred treatment of the find. If the find is determined to be significant by the archaeologist (i.e., because it is determined to constitute a unique archaeological resource), the archaeologist shall develop, and the applicant shall

implement, appropriate procedures to protect the integrity of the resource and ensure that no additional resources are affected. Procedures could include but would not necessarily be limited to preservation in place, archival research, subsurface testing, or contiguous block unit excavation and data recovery.

Significance after Mitigation

Implementation of Mitigation Measures 3.3-2a and 3.3-2b would reduce potentially significant impacts to archaeological resources because mitigation would avoid, move, record, or otherwise treat discovered resource appropriately, in accordance with pertinent laws and regulations. By providing an opportunity to avoid disturbance, disruption, or destruction of archaeological resources, this impact would be reduced to a **less-than-significant** level.

Impact 3.3-3: Cause a Substantial Adverse Change in the Significance of a Tribal Cultural Resource

Although consultation did not result in the identification of any tribal cultural resources, UAIC expressed concern that resources could be discovered during ground-disturbing activities. Therefore, impacts to TCRs would be **potentially significant**.

As detailed above, the County sent AB 52 notification letters to five tribal representatives; only UAIC responded. Consultation with UAIC has not resulted in the identification of any tribal cultural resources as defined by PRC Section 21074. However, UAIC did express concern regarding the general sensitivity of the county.

The program includes the installation of new fiber conduit predominantly along public or private roads and aboveground or underground lateral connections to private residences and businesses. Within urban areas, new conduit would be installed primarily through directional drilling (boring), with drilling access points spaced intermittently. In nonurban areas, conduits would typically be installed using a plowing technique, in which a vibratory cable plow incises the soil to a depth of 48 inches below the ground surface and the conduits are placed in the incised slit at the same time. Additionally, where fiber optic line would require installation aboveground and existing electrical infrastructure is not available, new steel poles would be installed. These ground-disturbing activities could uncover previously unknown tribal cultural resources. These activities could damage or destroy tribal cultural resources, and this would be a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.3-3a: Contact Geographically Affiliated Native American Tribes

During project-specific environmental review of subsequent broadband projects, the project proponent shall consult with the County to determine if the project site is in a high- or low-sensitivity area for tribal resources, according to a confidential map kept on file with the County. If the project site is located within an area of high sensitivity, the project proponent will notify UAIC. The notification will contain the following:

- A written description of the type of ground disturbance, location, and boundaries.
- A map of the project area at a sufficient scale to indicate the spatial extent of activities.
- A description of the activities (e.g., horizontal directional drilling, trenching, aboveground poles).
- A detailed description of the depth of excavation.
- A request for information regarding potential impacts to tribal cultural resources from the proposed ground-disturbing activities.

If coordination with the Tribe confirms that the project site has a high sensitivity for tribal cultural resources, the project proponent will coordinate with UAIC to conduct a site-specific survey of the project area, assuming it is not paved. If tribal cultural resources are identified within a project area and cannot be avoided, implement Mitigation Measure 3.3-3b. If the project site is located within low sensitivity, then implement Mitigation Measure 3.3-3c.

Mitigation Measure 3.3-3b: Treatment of Tribal Cultural Resources that Cannot be Avoided

The project proponent, in consultation with UAIC, will develop effective protection measures for important tribal cultural resources located within the project site; a tribal monitor will be present on-site for all ground-disturbing activities. These measures may include reburial, if culturally appropriate, or tribal retention. Reburial will take place on-site in a location not subject to further disturbance. Permanent curation of tribal cultural resources will not take place unless approved in writing by UAIC. The project proponent will defer implementing the treatment until the tribe approves protection measures, or if agreement cannot be reached after a good-faith effort, the proponent determines that any or all feasible measures have been implemented.

Mitigation Measure 3.3-3c: Unanticipated Discovery of Tribal Cultural Resources

If any suspected tribal cultural resources are discovered during ground disturbing construction activities, all work shall cease within 50 feet of the find, UAIC shall be notified, and a qualified archaeologist shall be retained. A UAIC tribal representative, in conjunction with the qualified archaeologist, shall determine if the find is a tribal cultural resource, pursuant to PRC Section 21074. The tribal representative will make recommendations for further evaluation and culturally appropriate treatment of discovered tribal cultural resources as necessary in consultation with the archaeological professional. No data recovery or curation of any physical tribal cultural resource will be allowed unless this is the preference of the tribe, as confirmed in writing. Preservation in place is the preferred mitigation. If the County determines that preservation in place is not feasible, reburial if culturally appropriate will take place on-site in a location not subject to further disturbance. The reburial site will be agreed upon in advance by the tribe and the project applicant. Work at the discovery location cannot resume until all necessary investigation, evaluation, and treatment of the discovery under the requirements of CEQA have been satisfied.

Significance after Mitigation

Implementation of Mitigation Measures 3.3-3a, 3.3-3b, and 3.3c would reduce impacts associated with tribal cultural resources to a **less-than-significant** level by coordinating with the culturally and geographically affiliated tribe, and requiring appropriate treatment and proper care of significant tribal cultural resources, in the case of a discovery.

Impact 3.3-4: Disturb Human Remains

Previously undiscovered human remains could be discovered when soils are disturbed. While it is unlikely that program implementation would uncover previously unknown human remains because of the locations of surface disturbance primarily along public or private roads and in previously disturbed and/or developed areas, the possibility remains. Compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097 would make this impact **less than significant**.

The program includes the installation of new fiber conduit predominantly along public or private roads and in previously disturbed and/or developed areas. Within urban areas, new conduit would be installed primarily through directional drilling (boring), with drilling access points spaced intermittently. In nonurban areas, conduits would typically be installed using a plowing technique, in which a vibratory cable plow incises the soil to a depth of 48 inches below the ground surface and the conduits are placed in the incised slit at the same time. Additionally, where fiber optic line would require installation aboveground and existing electrical infrastructure is not available, new steel poles would be installed. While unlikely because of their locations, these ground-disturbing activities could uncover previously unknown human remains.

Grave sites and Native American remains can occur outside of identified cemeteries or burial sites. Therefore, there is a possibility that unmarked, previously unknown Native American or other graves could be present within the program area and could be uncovered by individual fiber project-related construction activities.

California law recognizes the need to protect Native American human burials, skeletal remains, and items associated with Native American burials from vandalism and inadvertent destruction. The procedures for the treatment of Native American human remains are contained in California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.

These statutes require that, if human remains are discovered, potentially damaging ground-disturbing activities in the area of the remains shall be halted immediately, and the County coroner shall be notified immediately. If the remains are determined by the coroner to be Native American, NAHC shall be notified within 24 hours and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. Following the coroner's findings, the NAHC-designated Most Likely Descendant, and the landowner shall determine the ultimate treatment and disposition of the remains and take appropriate steps to ensure that additional human interments, if present, are not disturbed. The responsibilities for acting upon notification of a discovery of Native American human remains are identified in PRC Section 5097.94.

Compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097 would provide an opportunity to avoid or minimize the disturbance of human remains, and to appropriately treat any remains that are discovered. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

CUMULATIVE IMPACTS

The geographic scope for the analysis of cumulative impacts to archaeological resources, tribal cultural resources, and human remains is the historic lands of the Nisenan and the Washoe. Nisenan territory extended east to the crest of the Sierra Nevada, while the adjacent eastern flank of the Sierra Nevada, including the Tahoe-Truckee region, was within the traditional territory of the Washoe. The geographic scope for the analysis of cumulative impacts to historical resources is the entirety of the County.

Because all significant cultural resources are unique and nonrenewable members of finite classes, meaning there are a limited number of significant cultural resources, all adverse effects erode a dwindling resource base. The loss of any one archaeological site could affect the scientific value of others in a region because these resources are best understood in the context of the entirety of the cultural system of which they are a part. The cultural system is represented archaeologically by the total inventory of all sites and other cultural remains in the region. As a result, a meaningful approach to preserving and managing cultural resources must focus on the likely distribution of cultural resources, rather than on a single project or parcel boundary.

The historic lands of the Nisenan and the Washoe people have been affected by development since the arrival of the first Euro-Americans. For the Nisenan, that occurred in the early 1800s while for the Washoe it occurred around the time of the 1849 California gold rush and 1858 Nevada silver strike. Development of the Nisenan and the Washoe lands have continued and these activities have resulted in an existing significant adverse effect on archaeological resources, tribal cultural resources, and human remains. Historical resources associated with key historic events that occurred in the region, including the Gold Rush, hydraulic and dredge mining, agriculture, irrigation, and transportation have also been similarly impacted by continued development. Cumulative development, including projects described in Table 3.1-2, continues to contribute to the disturbance of cultural resources.

The program, in combination with other development in the region, could contribute to ongoing substantial adverse changes in the significance of historical resources and unique archaeological resources resulting from urban development. Cumulative development could result in potentially significant cultural resource impacts. Implementation of Mitigation Measure 3.3-1 would ensure that the program's contribution to cumulatively significant historical resource impacts would not be considerable by providing an opportunity to avoid disturbance or alteration of existing historic bridge features such that a change in a bridge's historical significance would not result. With implementation of this mitigation measure, the program's contribution to these impacts would be offset. Implementation of Mitigation Measures 3.3-2a and 3.3-2b would ensure that the program's contribution to cumulatively significant archeological resource impacts would not be considerable by requiring surveys prior to ground-disturbing activities, construction work to cease in the event of an accidental find and the appropriate treatment of discovered resources, in accordance with pertinent laws and regulations. With implementation of this mitigation measure, the program's contribution to these impacts would be offset.

Similarly, Mitigation Measures 3.3-3a through 3.3-3c would ensure that the program's contribution to cumulatively significant tribal cultural resources impacts would not be considerable by requiring preservation options and proper care of significant artifacts if they are recovered. Further, cumulative development would be required to implement similar mitigation to avoid/reduce impacts to archaeological resources and tribal cultural resources. Compliance with California Health and Safety Code Section 7050.5 and PRC Section 5097 would ensure that treatment and disposition of the remains occurs in a manner consistent with State guidelines and California Native American Heritage Commission guidance. Therefore, the program **would not have a considerable contribution** to any significant cumulative impact related to historical, archaeological, or tribal cultural resources.

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3.4 BIOLOGICAL RESOURCES

This section identifies the regulatory context and policies related to biological resources including federal, state, and local regulations; describes the existing conditions in the program area; and evaluates potential biological resources that could be affected by implementation of the Nevada County Broadband Program. Biological resources include vegetation and habitats, special-status plant and animal species, and sensitive natural communities. This evaluation is based on Nevada County GIS mapping analysis and review of the Nevada County Broadband Program Biological Resources Memorandum (Ascent Environmental 2022) prepared for the program.

During public review of the Notice of Preparation for the EIR, comments were received from the Central Valley Regional Water Quality Control Board (RWQCB) regarding regulations applicable to waters of the state and water quality and permitting requirements.

There are no habitat conservation plans (HCPs), natural community conservation plans (NCCPs), or other approved local, regional, or state habitat conservation plans in effect for the program area, therefore, the program would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan. For this reason, this issue is not discussed further in this section.

3.4.1 Regulatory Setting

FEDERAL

Clean Water Act

Section 404 of the Clean Water Act (CWA) requires a project proponent to obtain a permit before engaging in any activity that involves discharge of dredged or fill material into waters of the United States, including wetlands. Fill material is material placed in waters of the United States that has the effect of replacing any portion of waters of the United States with dry land or changing the bottom elevation of any portion of waters of the United States. Waters of the United States include navigable waters; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; relatively permanent tributaries to any of these waters; and wetlands adjacent to these waters. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Potentially jurisdictional wetlands typically must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Wetlands that meet the delineation criteria may be jurisdictional under Section 404 of the CWA pending the US Army Corps of Engineers verification.

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the state's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board to the nine RWQCBs.

Federal Endangered Species Act

Pursuant to the federal Endangered Species Act (ESA) (16 USC Section 1531 et seq.), US Fish and Wildlife Service (USFWS) regulates the taking of species listed in the ESA as threatened or endangered. In general, persons subject to ESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property, and from "taking" endangered or threatened plants in areas under federal jurisdiction or in violation of state law. Under Section 9 of the ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take.

Section 10 of the ESA applies if a non-federal agency is the lead agency for an action that results in take and no other federal agencies are involved in permitting or funding the action. Section 7 of the ESA applies if a federal discretionary action is required (e.g., a federal agency must issue a permit), in which case the involved federal agency consults with USFWS.

Bald and Golden Eagle Protection Act

Under the Bald and Golden Eagle Protection Act, it is illegal to take bald eagles, including their parts, nests, or eggs unless authorized. "Take" is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Disturb means to agitate or bother a bald or golden eagle to a degree that causes or is likely to cause (1) injury to an eagle; (2) a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment (USFWS 2007). In addition to immediate impacts, this definition also addresses impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it will be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. Under the MBTA, "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities." A take does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. The current list of species protected by the MBTA can be found in Title 50 of the Code of Federal Regulations (CFR), Section 10.13 (50 CFR 10.13). The list includes nearly all birds native to the United States.

STATE

California Endangered Species Act

Pursuant to the California Endangered Species Act (CESA), a permit from the California Department of Fish and Wildlife (CDFW) is required for projects that could result in the "take" of a plant or animal species that is listed by the state as threatened or endangered. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species but does not include "harm" or "harass," as does the federal definition. As a result, the threshold for take is higher under CESA than under the federal ESA. Authorization for take of state-listed species can be obtained through a California Fish and Game Code Section 2081 incidental take permit.

California Native Plant Protection Act

In addition to CESA, the California Native Plant Protection Act provides protection to endangered and rare plant species, subspecies, and varieties of wild native plants in California. The California Native Plant Protection Act definitions of "endangered" and "rare" closely parallel the CESA definitions of endangered and threatened plant species.

California Fish and Game Code Sections 3503 and 3503.4—Protection of Bird Nests and Raptors

Section 3503 of the Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.4 of the California Fish and Game Code states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders *Falconiformes* and *Strigiformes*), including their nests or eggs. Typical violations include destruction of active nests as a result of tree removal or disturbance caused by project construction or other activities that cause the adults to abandon the nest, resulting in loss of eggs and/or young.

Fully Protected Species under the California Fish and Game Code

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for

authorization of incidental take. CDFW has informed nonfederal agencies and private parties that their actions must avoid take of any fully protected species.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Act requires that each of the nine RWQCBs prepare and periodically update basin plans for water quality control. Each basin plan sets forth water quality standards for surface water and groundwater and actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands through the establishment of water quality objectives. The RWQCB's jurisdiction includes waters of the United States, as well as areas that meet the definition of "waters of the state." "Waters of the state" is defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The state definition of a wetland is an area that, under normal circumstances, (1) has continuous or recurrent saturation of the upper substrate caused by groundwater or shallow surface water or both, (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate, and (3) the area either lacks vegetation or the vegetation is dominated by hydrophytes (i.e., wetland plants). The RWQCB has the discretion to take jurisdiction over areas not federally protected under CWA Section 404 provided they meet the definition of waters of the state or the state definition of a wetland. The California Water Code generally regulates more substances contained in discharges and defines discharges to receiving waters more broadly than does the CWA. Mitigation requiring no net loss of wetlands functions and values of waters of the state typically is required by the RWQCB.

Section 1602 of the California Fish and Game Code

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW under Section 1600 et seq. of the California Fish and Game Code. Under Section 1602, it is unlawful for any person, governmental agency, or public utility to do any of the following without first notifying CDFW:

- substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel that has banks and supports fish or other aquatic life. This definition includes watercourses with a surface or subsurface flow that supports or has supported riparian vegetation (California Code of Regulations Title 14, Section 1.72). CDFW jurisdiction over altered or artificial waterways is based on the value of those waterways to fish and wildlife. A lake and streambed alteration agreement must be obtained for any diversion or alteration that would substantially adversely affect a fish or wildlife resource in a river, stream, or lake. A substantial change or use of material from the bed, bank, or channel includes the alteration or removal of riparian vegetation associated with a lake or stream.

LOCAL

Nevada County General Plan

The Nevada County General Plan (Nevada County 1995 [amended in 2008, 2010, 2014]) includes a Wildlife and Vegetation Element, which contains several goals, objectives and policies that may apply to biological resources that would be affected by program implementation.

GOAL 13.1: Identify and manage significant areas to achieve sustainable habitat.

Objective 13.1: Discourage intrusion and encroachment by incompatible land uses in significant and sensitive habitats.

- **Policy 13.2:** As part of the Comprehensive Site Development Standards, include standards to minimize removal of existing vegetation and require installation and long-term maintenance of landscaping in setbacks and buffer areas. These standards shall be applicable to all discretionary projects and to all ministerial projects other than a single-family residence located on an individual lot. Tree removal may be allowed where necessary to comply

with public right-of-way development or dedication, or development of required site access and public utilities. Individual trees or groups of trees shall be protected during construction to prevent damage to the trees and their root systems. Vegetation in proximity to structures shall conform to applicable fire protection standards.

- **Policy 13.2A:** Project review standards shall include a requirement to conduct a site-specific biological inventory to determine the presence of special status species or habitat for such species that may be affected by a proposed project. The results of the biological inventory shall be used as the basis for establishing land use siting and design tools required to achieve the objective of no net loss of habitat function or value for special status species.
- **Policy 13.4A:** No net loss of habitat functions or values shall be caused by development where rare and endangered species and wetlands of over 1 acre, in aggregate, are identified during the review of proposed projects. No net loss shall be achieved through avoidance of the resource, or through creation or restoration of habitat of superior or comparable quality, in accordance with guidelines of the US Fish and Wildlife Service and the California Department of Fish and Game.
- **Policy 13.4B:** Habitat that is required to be protected, restored, or created as mitigation for a project's impacts shall be monitored and maintained in accord with a County-approved Habitat Management Plan.

Objective 13.7: Identify and preserve heritage and landmark trees and groves where appropriate.

- **Policy 13.8:** As part of the Comprehensive Site Development Standards, include measures applicable to all discretionary and ministerial projects to minimize disturbance of heritage and landmark trees and groves. These measures shall include, but are not limited to, requirements for on-site vegetation inventories and mandatory clustering of development in areas likely to support such vegetation or habitat.
- **Policy 13.9:** Development in the vicinity of significant oak groves of all oak species shall be designed and sited to maximize the long-term preservation of the trees and the integrity of their natural setting. The County shall adopt a regulation to protect native heritage oak trees and significant oak groves. All native oak tree species with a trunk diameter of 36 inches or greater shall be protected.

Nevada County Tree Resource Standards

The Nevada County Tree Resource Standards (Title 3 Land Use and Development Code; Sec. L-II 4.3.15 Trees) states its purpose is to minimize removal of existing trees and protect existing trees during construction, to encourage protection of trees to provide suitable habitat for native wildlife, to preserve and minimize the disturbance of landmark and heritage trees and groves from development projects through on-site vegetation inventories, mandatory clustering, and other measures necessary to protect such habitat, and to maximize the long-term preservation, protection, and integrity of their natural setting.

A landmark tree is defined as any oak (*Quercus* species) 36 or more inches diameter at breast height (DBH), or any tree whose size, visual impact, or association with a historically significant structure or event has caused it to be marked for preservation by the County, State, or Federal government. A landmark grove is defined as hardwood tree groves with 33 percent or greater canopy closure, or groves whose size, visual impact, or association with a historically significant structure or event has caused it to be marked for preservation by the county, state, or federal government. Heritage trees and groves are defined as a tree or a group of hardwood trees designated by the Board of Supervisors to be of historical or cultural value, outstanding specimens, unusual species, or of significant community benefit due to size, age, or any other unique characteristic and considered to be in good health.

The following standards apply to tree removal:

For all applicable projects, the applicant shall have a Biological Inventory prepared by a qualified biologist, to determine whether the habitat for the defined resource, or the resource itself may be affected by a proposed project.

- Projects shall be approved only when they do not remove or disturb defined trees or groves unless a Management Plan is prepared consistent with the bullet point below or other standards are met consistent with the bullet point below. Exempted from this standard shall be trees or groves determined to be dead, dying, or a public safety hazard by a certified professional arborist, licensed landscape architect, registered professional

forester, or qualified biologist or botanist (referred to herein as a qualified professional). In addition, exemption shall apply to those trees that must be removed to ensure fire safe access or provide adequate fuel reduction as determined by the California Department of Forestry and Fire Protection or local fire district. Tree removal may also be allowed where necessary to provide for site access and public utilities or public right-of-way.

- If the above standard effectively precludes development of the project or a revised project, or adversely affects another environmentally sensitive resource, a Management Plan shall be prepared by a qualified professional. Said plan shall evaluate the impact of the project on defined trees and groves and recommend project modifications that avoid or minimize impacts. Emphasis shall be placed on protecting groups of trees rather than individuals. Defined trees that must be removed shall be replaced on an inch for an inch replacement of the removed tree(s). The total of replacement trees shall be required to have a combined diameter of the tree(s) removed. The Plan shall provide for the long-term maintenance of the replacement trees. Management Plans shall emphasize protection of two varieties of oak: Blue Oak (*Quercus douglasii*) and Valley Oak (*Quercus lobata*). Both are of very limited distribution in the County and considered to be sensitive plants worthy of special protection.
- If impacts remain, or if the Planning Agency determines that the planting of replacement trees is infeasible or the project site is not capable of supporting all the replacement trees, the applicant shall pay to Nevada County the current market value of the tree removed and the value of the replacement trees (including the cost of planting and maintenance), as established by a qualified professional, to go into a Tree Preservation Fund. Fund monies received in lieu of replacement trees shall be used for the planting and maintenance of trees on publicly owned property, or for purchase of replacement habitat.
- The above standards shall also apply in those instances in which it can be determined that a defined tree or grove has existed on-site 3 years prior to project application. In such instances, standards under paragraphs 1, 2, and 3 above shall be implemented as though the trees or groves were still on-site.
- Alternative standards to those above may be applied where the Planning Agency finds that the alternative standards have the same practical effect, further the intent of this Section, and provide equal or greater mitigation.
- Protection of all trees and groves to be retained during and after project construction shall occur consistent with a Tree Protection Plan prepared by a qualified professional, as listed in C.1 above. Said Plan shall specify pre-construction and post-construction protection measures. Pre-construction measures shall identify a tree protection zone and protection type (typically fencing), specify work required prior to construction (pruning, bracing systems, mulch, pest management, irrigation, fencing installation), and construction plans. Post-construction protection measures and specifications shall detail specific protection requirements, (i.e., water needs, monitoring, and maintenance) to ensure long-term care.
- Where the County determines that vegetation identified as an environmentally sensitive resource as defined by General Plan Policy 1.17, has been removed from the site in anticipation of development, or, within 1 year prior to submittal of a land use application, the following shall be required:

Prior to issuance of any development permits (i.e., grading or building permits), the developer shall fund a native plant restoration program to return the site to a naturally functioning habitat. If on-site restoration is not feasible, the restoration program shall include the identification of a suitable replacement site to be reviewed and approved of by the Nevada County Planning Agency. The restoration program shall include the hiring of a specialist, selected and contracted by the County, to (1) identify a suitable location or replacement site for the vegetation that has been removed, with the preferred location being the project site or within the vicinity of the site; (2) prepare a restoration, monitoring, and maintenance plan; (3) initiate the restoration; and (4) conduct a 5-year maintenance and monitoring program. The developer shall record or cause to record, a conservation easement on the selected property to preserve the restored habitat in perpetuity. The applicant shall be responsible for incurring all costs associated with the restoration project. The restoration shall represent a 3:1 ratio of habitat restored to habitat lost.

City of Grass Valley General Plan

The City of Grass Valley 2020 General Plan (City of Grass Valley 1999) includes a Conservation and Open Space Element, which contains several goals and objectives that may apply to biological resources within the city that would be affected by implementation of the proposed program.

GOAL 1-COSG: Provide a balance between development and the natural environment, protecting and properly utilizing Grass Valley's sensitive environmental areas/features, natural resources, and open space lands.

- **Policy 1-COSO:** Inventory of sensitive environmental area and features.
- **Policy 3-COSO**: Protection of rare and endangered animals and plants.
- **Policy 4-COSO***:* Reduction of urban development impacts on native vegetation, wildlife and topography.
- **Policy 5-COSO**: Encouragement of wildlife through habitat protection.
- **Policy 6-COSO***:* Assurance of appropriate resource conservation and environment protection measures as prerequisites to development.

GOAL 2-COSG: Protect, enhance, and restore hydrologic features, including stream corridors, flood plains, wetlands, and riparian zones.

- **Policy 8-COSO**: Minimize interference with the natural functions of flood plains and naturally flood-prone areas.

GOAL 3-COSG: Ensure the protection of Grass Valley's trees and forested areas.

- **Policy 9-COSO**: Identification of heritage trees for special recognition and protection.
- **Policy 10-COSO:** Identification of significant groves and groupings of trees for permanent open space designation.

City of Grass Valley Tree Ordinance

The City of Grass Valley Tree Ordinance (Chapter 12.36 Tree Preservation and Protection) recognizes the importance of trees to the character and beauty of Grass Valley, as well as the role that trees have in advancing the public health, safety and welfare of its residents. The city has therefore determined that reasonable regulation of the removal of certain trees is necessary and that this regulation of trees is based upon the following general guidelines:

A. The city recognizes that trees can provide soil stability, noise buffering, and wind protection benefits. The City of Grass Valley greatly values trees for their ecological importance, temperature mitigation, enhanced wildlife habitat and aesthetics.

B. The city recognizes the special significance of heritage and distinctive trees, and values the contribution which such trees make to the beauty and quality of life in Grass Valley.

C. The city recognizes that because of the known benefits of trees, development property should be protected from unregulated removal of trees prior to the approval of development plans. Trees on such properties should be preserved so that they may be considered for incorporation into development plans.

D. The city recognizes that private and public properties often have special landscaping circumstances, and that these special circumstances have the potential to affect significantly larger numbers of persons if unregulated. Because of this, such properties require reasonable regulation.

Nevada City General Plan

The Nevada City General Plan (Nevada City 1986 [amended in 2008, 2009, 2014]) includes several goals and objectives that may apply to biological resources in the city that would be affected by implementation of the proposed program.

Land Use and Economic Development Objective: Foster a compact rather than a scattered development pattern to preserve the existing impression of a tightly clustered, fine-grained core with tree-covered, rural surroundings, to prevent "strip" development along the highways, and reduce the extent and cost of public services.

- **Policy**: In recognition of the visual value of Sugarloaf Mountain and the nearby ridgetops, the following restrictions shall be included in any development for this area:

Avoid any land disturbance such as major grading and/or tree removal which would cause visual scars.

City Resources Objective: Preserve the existing impression of a historic town surrounded by open forest, especially from the "Gateway" at Ridge Road.

Preserve and enhance the important natural features, e.g., Sugarloaf, the ridges, the creeks, Gold Run, the hills within the city, and the steep terrain lying west of the city core.

- **Policy**: Discourage tree cutting within the city. (The Open Space District in the zoning ordinance provides some measure of control in this area.)
- **Policy**: Prevent soil erosion and hillside scarring through control of grading, restrictions on removal of vegetation, and limitation of development on steep slopes.

Nevada City Tree Preservation Ordinance

Chapter 18.01 of the Nevada City Code of Ordinances recognizes that the quality of life and character of Nevada City and the value of property in the city are directly related to the large number of native and ornamental trees presently situated within the city which contribute to its rural atmosphere and aesthetic appeal, the establishment of natural watershed areas, the control of soil erosion and flooding, the improvement of air quality by the production of oxygen, its moderated air temperature, acoustical control, and the ecological balance of the environment. The ordinance requires preservation of trees through its development review process, requires permits for cutting or removal of protected trees, and requires property owners to coordinate with the city to ensure optimum maintenance and health of street trees. Protected trees include several native tree species and all trees greater than 6 inches dbh. The ordinance also specifies additional protected trees consisting of those with trunks 54 inches dbh above existing grade, and any tree or grove of trees which have historical or horticultural significance. The ordinance also provides guidelines for preservation of trees and mitigation for trees that are removed.

Town of Truckee General Plan

The Town of Truckee 2025 General Plan (Town of Truckee 2006) includes a Conservation and Open Space Element, which contains several goals, policies, and actions that may apply to biological resources in the town that would be affected by implementation of the proposed program.

GOAL COS-2: Preserve and enhance the Truckee River and Donner Lake and the exceptional natural, scenic, economic, and recreational values they provide.

- **Policy P2.1**: Prohibit development within established setback areas from the Truckee River, except as otherwise allowed in the Development Code. Outside of the Downtown Specific Plan Area, development shall be set back a minimum of 100 feet from the edge of the Truckee River 100-year floodplain. Within the Downtown Specific Plan Area, development shall be set back a minimum distance from the edge of the 100-year floodplain that is equivalent to one foot above the base flood elevation. Grading, landscaping, and drainage uses within the established setback area shall also be subject to strict controls. Improvements for public access and use may be allowed within the established setbacks.
- **Policy P2.8:** Prohibit development within the established setback areas from Donner Lake, except as otherwise allowed in the Development Code, and enhance degraded areas within the Donner Lake 100-year floodplain and setback, possibly in association with a related project approval, or as off-site mitigation for development projects.

GOAL COS-4: Protect areas of significant wildlife habitat and sensitive biological resources.

- **Policy P4.1:** Provide for the integrity and continuity of biological resources open space, habitat and wildlife movement corridors and support the permanent protection and restoration of these areas, particularly those identified as sensitive resources.

- **Policy P4.2:** Protect sensitive wildlife habitat from destruction and intrusion by incompatible land uses where appropriate. All efforts to protect sensitive habitats should consider:
  - Sensitive habitat and movement corridors in the areas adjacent to development sites, as well as on the development site itself.
  - Prevention of habitat fragmentation and loss of connectivity.
  - Use of appropriate protection measures for sensitive habitat areas such as non-disturbance easements and open space zoning.
  - Off-site habitat restoration as a potential mitigation, provided that no net loss of habitat value results.
  - Potential mitigation or elimination of impacts through mandatory clustering of development, and/or project redesign.
- **Policy P4.4:** Preserve riparian corridors, Donner Lake and aquatic and wetland areas through application of setbacks and other development standards that respect these resources.
- **Policy P4.5:** Development shall be prohibited within established setback areas for streams and waterways other than the Truckee River, except as otherwise allowed in the Development Code; such setbacks shall be between 20 and 50 feet on parcels less than 175 feet deep (depending on parcel depth), and 50 feet on parcels 175 feet deep or more.

GOAL COS-5: Maintain biodiversity among plant and animal species in the Town of Truckee and the surrounding area, with special consideration of species identified as sensitive, rare, declining, unique, or representing valuable biological resources.

- **Policy P5.1:** Require biological resource assessments for all development in areas where special status species may be present.
- **Policy P5.2:** Protect native plant species in undisturbed portions of a development site and encourage planting and regeneration of native plant species wherever possible in undisturbed portions of the project site.
- **Policy P5.3:** Protect to the extent possible federal or State-designated endangered, threatened, special status or candidate species.
- **Policy P5.4:** Support efforts to eradicate invasive and noxious weeds and vegetation on public and private property.

Town of Truckee Tree Preservation Ordinance

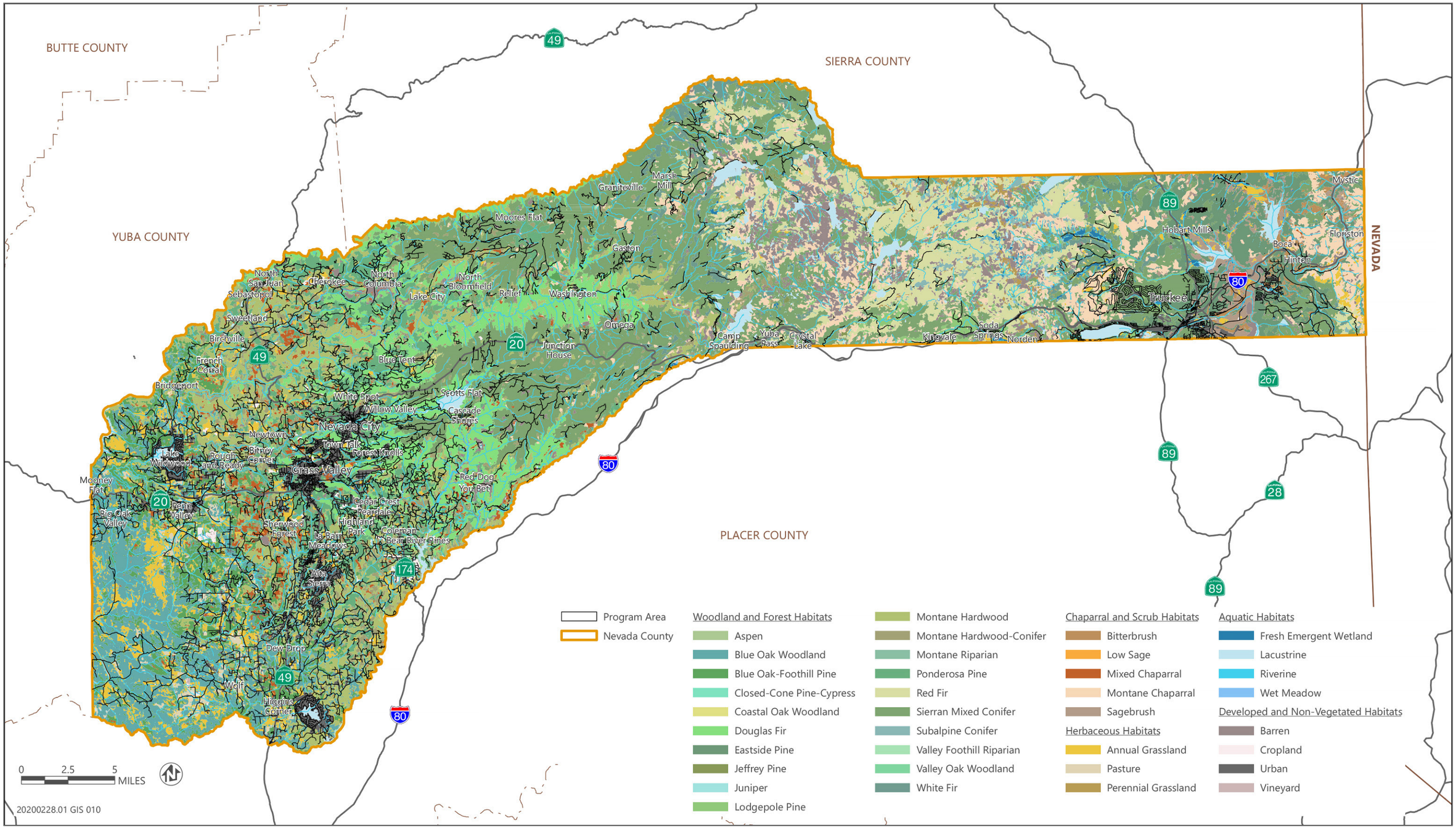
Section 18.30.155 of the Town of Truckee Development Code recognizes that trees provide benefits such as soil stability, noise buffering, wind protection, temperature mitigation, enhancement of wildlife habitat, and aesthetics. The ordinance provides protection for trees, while exempting certain activities from the tree permitting process. Unless otherwise exempt, development projects need approval to remove trees greater than 24 inches dbh. The ordinance also provides guidelines for preservation of trees and mitigation for trees that are removed.

3.4.2 Environmental Setting

The biological study area consists of 85 feet on each side of the roadway centerline for public and private roadways, because this is the maximum distance from the roadway centerline where fiber optic installation would generally be expected to occur. The biological study area is representative of the biological characteristics of the program area.

HABITAT TYPES

Habitat types in the program area are based on CDFW's *A Guide to Wildlife Habitats of California* (Mayer 1988) that is used in CDFW's California Wildlife Habitat Relationship System. The California Aquatic Resource Inventory (CARI) (CWMW 2022) was also queried, and CARI aquatic types were cross walked with CWHR types for consistency. Habitat types within Nevada County are shown in Figure 3.4-1. Table 3.4-1 provides the acreage of each habitat type mapped within the biological study area.



Source: Data downloaded from CAL FIRE in 2015; adapted by Ascent in 2021.

Figure 3.4-1 Habitat Types in Nevada County

Table 3.4-1 CWHR Habitat Types Present in the Program Area

Habitat Type	Acres in the Program Area
Forest Habitats	
Aspen	6
Closed-Cone Pine Cypress	25
Douglas Fir	2,826
Eastside Pine	1,479
Jeffrey Pine	26
Lodgepole Pine	406
Ponderosa Pine	4,507
Red Fir	521
Sierran Mixed Conifer	6,442
Subalpine Conifer	8
White Fir	271
Woodland Habitats	
Blue Oak Woodland	2,455
Blue Oak-Foothill Pine	2,148
Coastal Oak Woodland	8
Montane Hardwood	4,052
Montane Hardwood-Conifer	2,440
Montane Riparian	85
Valley Foothill Riparian	108
Valley Oak Woodland	172
Chaparral and Scrub Habitats	
Bitterbrush	211
Mixed Chaparral	855
Montane Chaparral	643
Sagebrush	305
Herbaceous Habitats	
Annual Grassland	2,341
Pasture	234
Perennial Grassland	13
Aquatic Habitats	
Fresh Emergent Wetland	32
Lacustrine	79
Riverine	232
Wet Meadow	15
Developed and Non-Vegetated Habitats	
Barren	393
Cropland	229
Urban[1]	10,572
Vineyard	2

[1] This acreage underestimates the acreage of urban habitat because roadways were assigned the same habitat type as the adjacent habitat in the 85-foot buffer for the acreage calculation.

Source: Compiled by Ascent Environmental in 2022.

COMMON WILDLIFE SPECIES

Nevada County extends from the base of the Sierra Nevada foothills, through the western slope and over the Sierra crest to the eastern slope of the Sierra Nevada. It encompasses a wide variety of habitats throughout the varying elevations. Many of these habitats, particularly coniferous forests and oak woodlands support diverse flora and fauna. These natural habitats provide high-quality breeding and foraging areas for many wildlife species.

Developed habitats (i.e., urban) generally have low wildlife diversity. Wildlife species diversity and abundance in these areas is expected to be greater for individual fiber projects where public and private roadways and previously disturbed and/or developed areas are adjacent to natural habitats. Common wildlife found in developed habitats include mostly nonnative species such as rock dove (*Columba livia*), European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), house mouse (*Mus musculus*), and brown rat (*Rattus norvegicus*). Native wildlife species that also occur in urban areas include mourning dove (*Zenaida macroura*), American robin (*Turdus migratorius*), California ground squirrel (*Spermophilus beecheyi*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and opossum (*Didelphis virginiana*).

The western edge of Nevada County occurs within the Sierra Nevada foothills, starting at approximately 300 feet, and extends to approximately 1,500 feet and includes the southern portion of the Highway 49 corridor, including Alta Sierra and Higgins Corner. This section of far western Nevada County is composed mainly of blue oak woodland, blue oak-foothill pine, and annual grassland habitat types. Oak woodlands provide breeding habitats for a large variety of wildlife species. For example, blue oak woodlands in the Sierra Nevada provide habitat for 29 species of amphibians and reptiles, 57 species of birds, and 10 species of mammals (Verner and Boss 1980). Common species found in blue oak woodlands in Nevada County include western fence lizard (*Sceloporus occidentalis*), common kingsnake (*Lampropeltis getula*), acorn woodpecker (*Melanerpes formicivorus*), California scrub-jay (*Aphelocoma californica*), oak titmouse (*Baeolophus inornatus*), mule deer (*Odocoileus hemionus*), western gray squirrel (*Sciurus griseus*), gray fox (*Urocyon cinereoargenteus*), and bobcat (*Lynx rufus*).

Agricultural lands, particularly pasture and some cropland and vineyards, are also found in western Nevada County. These habitats support many wildlife species that are adapted to these disturbed environments and use these areas as foraging habitat. Common wildlife species that occur in agricultural lands include Brewer's blackbird (*Euphagus cyanocephalus*), American crow (*Corvus brachyrhynchos*), red-tailed hawk (*Buteo jamaicensis*), house finch (*Carpodacus mexicanus*), raccoon, striped skunk, and opossum.

Along the western slope of the Sierra Nevada, from roughly 1,500 to 3,500 feet, is the Highway 49 corridor winds through the towns of North San Juan, Nevada City, and Grass Valley. This section also includes the Highway 174 corridor, Rollins Lake, and Scotts Flat Reservoir and vicinity, the towns of Washington, North Columbia, and Malakoff Diggins State Park. This section of the county is dominated by lower- and mid-montane forest and woodland comprised of Douglas fir, montane hardwood, montane hardwood-conifer, and ponderosa pine habitat types. Lower montane forest and woodland supports high wildlife diversity. Common wildlife species found in these habitats include Sierran treefrog (*Pseudacris sierra*), rubber boa (*Charina bottae*), Stellar's jay (*Cyanocitta stelleri*), hairy woodpecker (*Leuconotopicus villosus*), western tanager (*Piranga ludoviciana*), black-headed grosbeak (*Pheucticus melanocephalus*), mule deer, and Douglas' squirrel (*Tamiasciurus douglasii*). This area also contains shrub- and herb-dominated habitats such as mixed chaparral and annual grassland. These habitat types generally support lower wildlife diversity than forest and woodland dominated types, but a number of wildlife species are dependent on chaparral types and chaparral is also important for a number of shrub dependent Sierran birds (Estes 2016). Grasslands are important foraging habitat for many wildlife species. Common wildlife species found in grassland habitats include western fence lizard, gopher snake (*Pituophis catenifer*), western meadowlark (*Sturnella neglecta*), Say's phoebe (*Sayornis saya*), savanna sparrow (*Passerculus sandwichensis*), California ground squirrel, black-tailed jackrabbit (*Lepus californicus*), pocket gopher (*Thomomys mazama*), and coyote (*Canis latrans*).

The middle of Nevada County extends from roughly 3,500 feet to the highest peaks in the county along the Sierra crest and back down the eastern slope of the Sierra Nevada to roughly 6,000 feet along the Highway 89 corridor. This section is mostly encompassed by Tahoe National Forest, including the Grouse Ridge non-motorized area, and a patchwork of private inholdings. Several large lakes occur in this area including French, Meadow, Faucherie, Bowman,

and Independence lakes and Lake Spaulding. This section of Nevada County is dominated by Sierra mixed conifer. This area also includes scattered patches of other high elevation habitat types such as subalpine conifer, wet meadow, and montane riparian. Sierra mixed conifer is very important for wildlife and supports 355 species of animals (Verner and Boss 1980). Common wildlife species found in Sierra mixed conifer and other high elevation habitats in Nevada County include Clark's nutcracker (*Nucifraga columbiana*), mountain chickadee (*Poecile gambelii*), red-breasted nuthatch (*Sitta canadensis*), brown creeper (*Certhia americana*), Hammond's flycatcher (*Empidonax hammondii*), Lincoln's sparrow (*Melospiza lincolnii*), golden-mantled ground squirrel (*Spermophilus lateralis*), Beldings ground squirrel (*Spermophilus beldingi*), and yellow-bellied marmot (*Marmota flaviventris*). White fir, red fir, and montane chaparral are also common habitat types within this area and support a wide variety of wildlife species. White fir provides excellent habitat for snag and cavity dependent wildlife species (Shimamoto 1988) and is the preferred tree species for insect-gleaning birds including yellow-rumped warbler (*Setophaga coronata*), western tanager, mountain chickadee, chestnut-backed chickadee (*Poecile rufescens*), golden-crowned kinglet (*Regulus satrapa*), and black-headed grosbeak (Airola and Barrett 1985). Red fir provides seasonal food or cover to a total of 169 wildlife species (Barrett 1988). Montane chaparral provides habitat for many species, including mule deer, which are strongly associated with chaparral communities. Montane chaparral provides critical summer range foraging areas, escape cover, and fawning habitat (Risser and Fry 1988).

The eastern section of Nevada County occurs along the eastern slope of the Sierra Nevada, west of Highway 89 to the California-Nevada state line. This section is dominated by eastside pine and also contains bitterbrush, sagebrush, Sierra mixed conifer, and montane chaparral habitat types. These habitat types, including eastside pine, bitterbrush, and sagebrush, are important for wildlife, and often form important migratory and winter range for deer. Higher elevation stands of eastside pine with grassy understories near water may be extremely important deer fawning areas and migratory holding areas. Bitterbrush habitat is important as a food source for deer and other wildlife. Bitterbrush is highly digestible and contains desirable levels of moisture, calcium, phosphorus, and fat. It tolerates considerable browsing and its leaves and twigs are favored by mule deer and pronghorn. In addition, many species of birds, rodents, and insects use bitterbrush seeds. Birds also eat the loopers and tent caterpillars that feed on the vegetative parts of bitterbrush. Wildlife species found in bitterbrush habitat include the gray flycatcher (*Empidonax wrightii*), green-tailed towhee (*Pipilo chlorurus*), jackrabbit, least chipmunk (*Neotamias minimus*), Belding's ground squirrel, kangaroo rat (*Dipodomys* spp.), and badger (*Taxidea taxus*). Sagebrush is very important to wildlife because it serves as habitat for some of the more important game animals, including mule deer, sage grouse (*Centrocercus urophasianus*), and chukar (*Alectoris chukar*). Other wildlife found in this habitat include cottontail rabbit (*Sylvilagus* spp.), ground squirrel, wood rats (*Neotoma* spp.), deer mice (*Peromyscus* spp.), black-billed magpie (*Pica hudsonia*), pinyon jay (*Gymnorhinus cyanocephalus*), and sage thrasher (*Oreoscoptes montanus*).

SENSITIVE BIOLOGICAL RESOURCES

Special-Status Species

Special-status species are defined as species that are legally protected or that are otherwise considered sensitive by federal, state, or local resource agencies. Special-status species are species, subspecies, or varieties that fall into one or more of the following categories, regardless of their legal or protection status:

- officially listed by California or the federal government as endangered, threatened, or rare;
- candidate for state or federal listing as endangered, threatened, or rare;
- taxa (i.e., taxonomic category or group) that meet the criteria for listing, even if not currently included on any list, as described in the CCR Section 15380 of the State CEQA Guidelines;
- species identified by CDFW as species of special concern;
- species listed as fully protected under the California Fish and Game Code;
- species afforded protection under local planning documents; and

- taxa considered by the CDFW to be "rare, threatened, or endangered in California" and assigned a California Rare Plant Rank (CRPR). The CDFW system includes six rarity and endangerment ranks for categorizing plant species of concern, summarized as follows:
  - CRPR 1A - Plants presumed to be extinct in California;
  - CRPR 1B - Plants that are rare, threatened, or endangered in California and elsewhere;
  - CRPR 2A - Plants presumed to be extinct in California but common elsewhere;
  - CRPR 2B - Plants that are rare, threatened, or endangered in California but more common elsewhere;
  - CRPR 3 - Plants about which more information is needed (a review list); and
  - CRPR 4 - Plants of limited distribution (a watch list).

All plants with a CRPR are considered "special plants" by CDFW. The term "special plants" is a broad term used by CDFW to refer to all plant taxa inventoried in the CDFW California Natural Diversity Database (CNDDB), regardless of their legal or protection status. Plants ranked as CRPR 1A, 1B, 2A, and 2B may qualify as endangered, rare, or threatened species within the definition of CEQA Guidelines Section 15380. CDFW recommends that potential impacts to CRPR 1 and 2 species be evaluated in CEQA documents. In general, CRPR 3 and 4 species do not meet the definition of endangered, rare, or threatened pursuant to CEQA Guidelines Section 15380. However, these species may be evaluated by the lead agency on a case-by-case basis based on local rarity or significance of the species.

- considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA Section 15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G); or
- otherwise meets the definition of rare or endangered under CEQA Section 15380 (b) and (d).

The term "California species of special concern" is applied by CDFW to animals not listed under ESA or CESA, but that are declining at a rate that could result in listing, or that historically occurred in low numbers and known threats to their persistence currently exist. CDFW's fully protected status was California's first attempt to identify and protect animals that were rare or facing extinction. Most species listed as fully protected were eventually listed as threatened or endangered under CESA; however, some species remain listed as fully protected but do not have simultaneous listing under CESA. Fully protected species may not be taken or possessed at any time and no take permits can be issued for these species except for scientific research purposes or for relocation to protect livestock.

Special-Status Plants

Table 3.4-2 provides a list of the special-status plants identified in the Nevada County Broadband Program Biological Resources Memorandum (Ascent Environmental 2022), and describes their regulatory status, habitat, and potential for occurrence in the program area. Seventy-eight special-status plant species were identified as having potential to occur within the biological study area and vicinity.

Table 3.4-2 Special-Status Plant Species Known to Occur in the Region and Their Potential for Occurrence in the Program area

Species	Listing Status[1]			Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State	CRPR		
Congdon's onion *Allium sanbornii* var. *congdonii*			4.3	Chaparral, cismontane woodland. Ultramafic barrens or volcanic soils with scattered gray pines. 984 to 3,248 feet in elevation. Blooms April to July.	May occur. Suitable habitat is present in the program area.
Sanborn's onion *Allium sanbornii* var. *sanbornii*			4.2	Chaparral, cismontane woodland, lower montane coniferous forest. Usually on serpentine outcrops. 853 to 4,954 feet in elevation. Blooms May to September.	May occur. Suitable habitat is present in the program area.
True's manzanita			4.2	Chaparral, lower montane coniferous forest. 1,394 to 4,560 feet in elevation. Blooms February to July.	May occur. Suitable habitat is present in the program area.

Species	Listing Status[1]			Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State	CRPR		
Arctostaphylos mewukka ssp. *truei*					
Austin's astragalus *austiniae*			1B.3	Alpine boulder and rock field, subalpine coniferous forest. Rocky. 8,005 to 9,728 feet in elevation. Blooms July to September.	Not expected to occur. Suitable habitat is not present in the program area.
Woolly-leaved milk-vetch *Astragalus whitneyi* var. *lenophyllus*			4.3	Alpine boulder and rock fields, subalpine coniferous forest. Rocky sites. 7,005 to 10,007 feet in elevation. Blooms July to August.	Not expected to occur. Suitable habitat is not present in the program area.
Mexican mosquito fern *Azolla microphylla*			4.2	Marshes and swamps. Ponds and still water. 98 to 328 feet in elevation. Blooms August.	May occur. Suitable habitat is present in the program area. However, most of the program area is above the elevation range for this species.
Upswept moonwort *Botrychium ascendens*			2B.3	Lower montane coniferous forest, meadows and seeps. Grassy fields, coniferous woods near springs and creeks. 3,658 to 10,712 feet in elevation. Blooms July to August.	May occur. Suitable habitat is present in the program area.
Scalloped moonwort *Botrychium crenulatum*			2B.2	Bogs and fens, meadows and seeps, upper montane coniferous forest, lower montane coniferous forest, marshes and swamps. Moist meadows, freshwater marsh, and near creeks. 3,888 to 10,203 feet in elevation. Blooms June to September.	May occur. Suitable habitat is present in the program area.
Common moonwort *Botrychium lunaria*			2B.3	Meadows and seeps, subalpine coniferous forest, upper montane coniferous forest. 6,398 to 11,204 feet in elevation. Blooms August.	May occur. Suitable habitat is present in the program area.
Mingan moonwort *Botrychium minganense*			2B.2	Lower montane coniferous forest, upper montane coniferous forest, bogs and fens, meadows and seeps. Creekbanks in mixed conifer forest. 3,904 to 10,810 feet in elevation. Blooms July to September.	May occur. Suitable habitat is present in the program area.
Watershield *Brasenia schreberi*			2B.3	Freshwater marshes and swamps. Aquatic from water bodies both natural and artificial in California. 98 to 7,218 feet in elevation. Blooms June to September.	May occur. Suitable habitat is present in the program area.
Valley brodiaea *Brodiaea rosea* ssp. *vallicola*			4.2	Valley and foothill grassland (swales), vernal pools. Old alluvial terraces. Silty, sandy, and gravelly loam. 32 to 1,099 feet in elevation. Blooms April to May.	May occur. Suitable habitat is present in the program area.
Sierra foothills brodiaea *Brodiaea sierrae*			4.3	Chaparral, cismontane woodland. Usually on gabbro or serpentine. Occasionally on other soil types where conditions limit cover of other plants. 164 to 3,100 feet in elevation. Blooms May to August.	May occur. Suitable habitat is present in the program area.
Bolander's bruchia *Bruchia bolanderi*			4.2	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest. Moss which grows on damp clay soils. Seems to colonize bare soil along streambanks, meadows, fens and springs. This species has an ephemeral nature and is disturbance adapted. 5,282 to 10,958 feet in elevation.	May occur. Suitable habitat is present in the program area.
Thread-leaved beakseed *Bulbostylis capillaris*			4.2	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest. 1,296 to 6,808 feet in elevation. Blooms June to August.	May occur. Suitable habitat is present in the program area.

Species	Listing Status[1]			Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State	CRPR		
Stebbins' morning-glory *Calystegia stebbinsii*	FE	SE	1B.1	Chaparral, cismontane woodland. On red clay soils of the Pine Hill formation; gabbro or serpentine; open areas. 984 to 2,379 feet in elevation. Blooms April to July.	May occur. Suitable habitat is present in the program area.
Davy's sedge *Carex davyi*			1B.3	Subalpine coniferous forest, upper montane coniferous forest. 4,790 to 10,597 feet in elevation. Blooms May to August.	May occur. Suitable habitat is present in the program area.
Woolly-fruited sedge *Carex lasiocarpa*			2B.3	Bogs and fens, marshes and swamps. Sphagnum bogs, freshwater marsh, lake margins. 1,969 to 6,398 feet in elevation. Blooms June to July.	May occur. Suitable habitat is present in the program area.
Mud sedge *Carex limosa*			2B.2	Bogs and fens, lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest. In floating bogs and soggy meadows and edges of lakes. 4,495 to 9,154 feet in elevation. Blooms June to August.	May occur. Suitable habitat is present in the program area.
Chaparral sedge *Carex xerophila*			1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. Serpentinite, gabbroic. 902 to 2,526 feet in elevation. Blooms March to June.	May occur. Suitable habitat is present in the program area.
Fresno ceanothus *fresnensis*			4.3	Cismontane woodland, lower montane coniferous forest. 2,953 to 6,906 feet in elevation. Blooms May to July.	May occur. Suitable habitat is present in the program area.
Brandegee's clarkia *Clarkia biloba* ssp. *brandegeeae*			4.2	Chaparral, cismontane woodland, lower montane coniferous forest. Often in roadcuts. 246 to 3,002 feet in elevation. Blooms May to July.	May occur. Suitable habitat is present in the program area.
Golden-anthered clarkia *mildrediae* ssp. *lutescens*			4.2	Cismontane woodland, lower montane coniferous forest. Often in roadcuts. Rocky sites. 902 to 5,741 feet in elevation. Blooms June to August.	May occur. Suitable habitat is present in the program area.
Fell-fields claytonia *megarhiza*			2B.3	Alpine boulder and rock field, subalpine coniferous forest. In the crevices between rocks, rocky or gravelly soil. 8,530 to 10,942 feet in elevation. Blooms July to September.	Not expected to occur. Suitable habitat is not present in the program area.
Northern coralroot *Corallorhiza trifida*			2B.1	Lower montane coniferous forest, meadows and seeps. Wet, open to shaded, generally coniferous forest. In California, under firs, in partial shade. 3,986 to 5,709 feet in elevation. Blooms June to July.	May occur. Suitable habitat is present in the program area.
Clustered-flower cryptantha *Cryptantha glomeriflora*			4.3	Great Basin scrub, meadows and seeps, subalpine coniferous forest, upper montane coniferous forest. Granitic or volcanic soils; sandy sites. 5,906 to 12,303 feet in elevation. Blooms June to September.	May occur. Suitable habitat is present in the program area.
California lady's-slipper *Cypripedium californicum*			4.2	Lower montane coniferous forest, bogs and fens. In perennial seepages on serpentine substrate and in gravel along creek margins. 98–9,022 feet in elevation. Blooms April to August.	May occur. Suitable habitat is present in the program area.
Clustered lady's-slipper *Cypripedium fasciculatum*			4.2	North Coast coniferous forest, lower montane coniferous forest. In serpentine seeps and moist streambanks. 328 to 7,989 feet in elevation. Blooms March to August.	May occur. Suitable habitat is present in the program area.
California pitcherplant *Darlingtonia californica*			4.2	Bogs and fens, meadows and seeps. On ultramafic soils. Blooms April to August.	May occur. Suitable habitat is present in the program area.
English sundew *Drosera anglica*			2B.3	Bogs and fens, meadows. 4,265 to 6,562 feet in elevation. Blooms June to September.	May occur. Suitable habitat is present in the program area.
Subalpine fireweed *Epilobium howellii*			4.3	Meadows and seeps, subalpine coniferous forest. Wet meadows, mossy seeps. 6,562 to 10,236 feet in elevation. Blooms July to August.	May occur. Suitable habitat is present in the program area.

Species	Listing Status[1]			Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State	CRPR		
Starved daisy *Erigeron miser*			1B.3	Upper montane coniferous forest. Rocky, granitic outcrops. 5,085 to 9,104 feet in elevation. Blooms June to October.	May occur. Suitable habitat is present in the program area.
Northern Sierra daisy *Erigeron petrophilus* var. *sierrensis*			4.3	Lower montane coniferous forest, upper montane coniferous forest, cismontane woodland. Rocky foothills to montane forest, sometimes on serpentine. 984 to 6,808 feet in elevation. Blooms June to October.	May occur. Suitable habitat is present in the program area.
Tripod buckwheat *Eriogonum tripodum*			4.2	Cismontane woodland, chaparral. Gravelly slopes and flats; often on serpentine. 656 to 5,249 feet in elevation. Blooms May to July.	May occur. Suitable habitat is present in the program area.
Donner Pass buckwheat *Eriogonum umbellatum* var. *torreyanum*			1B.2	Upper montane coniferous forest, meadows and seeps. Steep slopes and ridgetops; rocky, volcanic soils; usually in bare or sparsely vegetated areas. 6,086 to 8,596 feet in elevation. Blooms July to September.	May occur. Suitable habitat is present in the program area.
Slender cottongrass *Eriophorum gracile*			4.3	Bogs and fens, meadows and seeps, upper montane coniferous forest. Acidic soils. 4,199 to 9,514 feet in elevation. Blooms May to September.	May occur. Suitable habitat is present in the program area.
Pine Hill flannelbush *Fremontodendron decumbens*	FE	SR	1B.2	Chaparral, cismontane woodland. Rocky ridges; gabbro or serpentine endemic; often among rocks and boulders. 1,394 to 2,510 feet in elevation. Blooms April to July.	May occur. Suitable habitat is present in the program area.
Butte County fritillary *Fritillaria eastwoodiae*			3.2	Chaparral, cismontane woodland, lower montane coniferous forest. Usually on dry slopes but also found in wet places; soils can be serpentine, red clay, or sandy. 164 to 4,839 feet in elevation. Blooms March to June.	May occur. Suitable habitat is present in the program area.
Plumas ivesia *Ivesia sericoleuca*			1B.2	Great Basin scrub, lower montane coniferous forest, meadows and seeps, vernal pools. Vernally mesic areas; usually volcanic substrates. 4,314 to 7,005 feet in elevation. Blooms May to October.	May occur. Suitable habitat is present in the program area.
Yosemite tarplant *Jensia yosemitana*			3.2	Meadows and seeps, lower montane coniferous forest. Granite. 3,937 to 7,546 feet in elevation. Blooms May to July.	May occur. Suitable habitat is present in the program area.
Finger rush *Juncus digitatus*			1B.1	In full sun, in the vernally damp ground of seeps, vernal pools and swales on gentle slopes over volcanic bedrock. 1,969 to 2,592 feet in elevation. Blooms May to June.	May occur. Suitable habitat is present in the program area.
Center Basin rush *Juncus hemiendytus* var. *abjectus*			4.3	Subalpine coniferous forest, meadows and seeps. Mesic sites. 4,593 to 11,155 feet in elevation. Blooms May to June.	May occur. Suitable habitat is present in the program area.
Santa Lucia dwarf rush *Juncus luciensis*			1B.2	Vernal pools, meadows and seeps, lower montane coniferous forest, chaparral, Great Basin scrub. Vernal pools, ephemeral drainages, wet meadow habitats and stream sides. 984 to 6,693 feet in elevation. Blooms April to July.	May occur. Suitable habitat is present in the program area.
Dubious pea *Lathyrus sulphureus* var. *argillaceus*			3	Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest. 492 to 3,051 feet in elevation. Blooms April to May.	May occur. Suitable habitat is present in the program area.
Cantelow's lewisia *Lewisia cantelovii*			1B.2	Broadleaved upland forest, lower montane coniferous forest, cismontane woodland, chaparral. Mesic rock outcrops and wet cliffs, usually in moss or clubmoss; on granitics or sometimes on serpentine. 1,083 to 4,495 feet in elevation. Blooms May to October.	May occur. Suitable habitat is present in the program area.

Species	Listing Status[1]			Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State	CRPR		
Hutchison's lewisia *Lewisia kelloggii* ssp. *hutchisonii*			3.2	Upper montane coniferous forest. On slate; in openings. Sometimes on rhyolite tuff. 2,510 to 7,759 feet in elevation. Blooms May to August.	May occur. Suitable habitat is present in the program area.
Kellogg's lewisia *Lewisia kelloggii* ssp. *kelloggii*			3.2	Upper montane coniferous forest. Often on slate, sometimes rhyolite tuff. In openings, on ridgetops. 4,806 to 7,759 feet in elevation. Blooms May to August.	May occur. Suitable habitat is present in the program area.
Long-petaled lewisia *Lewisia longipetala*			1B.3	Alpine boulder and rock field, subalpine coniferous forest. Mesic rocky sites; in cracks of granite or gravelly volcanic soils. 8,202 to 9,596 feet in elevation. Blooms July to August.	Not expected to occur. Suitable habitat is not present in the program area.
Humboldt lily *Lilium humboldtii* ssp. *humboldtii*			4.2	Chaparral, lower montane coniferous forest, cismontane woodland. Yellow-pine forest, openings, or open forest. 295–4,199 feet in elevation. Blooms May to July.	May occur. Suitable habitat is present in the program area.
Inundated bog-clubmoss *Lycopodiella inundata*			2B.2	Bogs and fens, lower montane coniferous forest, marshes and swamps. Peat bogs, muddy depressions, pond margins. 148 to 4,019 feet in elevation. Blooms June to September.	May occur. Suitable habitat is present in the program area.
Northern bugleweed *Lycopus uniflorus*			4.3	Bogs and fens, marshes and swamps. Wet places. 16 to 6,562 feet in elevation. Blooms July to September.	May occur. Suitable habitat is present in the program area.
Three-ranked hump moss *Meesia triquetra*			4.2	Bogs and fens, meadows and seeps, upper montane coniferous forest, subalpine coniferous forest. Moss growing on mesic soil. Saturated bogs, fens, seeps, and meadows in coniferous to subalpine forests. 4,265 to 9,695 feet in elevation. Blooms July.	May occur. Suitable habitat is present in the program area.
Broad-nerved hump moss *Meesia uliginosa*			2B.2	Meadows and seeps, bogs and fens, upper montane coniferous forest, subalpine coniferous forest. Moss on damp soil. Often found on the edge of fens or raised above the fen on hummocks/shrub bases. 3,593 to 9,203 feet in elevation. Blooms July to October.	May occur. Suitable habitat is present in the program area.
Elongate copper moss *Mielichhoferia elongata*			4.3	Cismontane woodland. Moss growing on very acidic, metamorphic rock or substrate; usually in higher portions in fens. Often on substrates naturally enriched with heavy metals (e.g., copper). 1,640 to 4,265 feet in elevation.	May occur. Suitable habitat is present in the program area.
Hiroshi's flapwort *Nardia hiroshii*			2B.3	Meadows and seeps. Damp soil with granitic bedrock. 7201 feet in elevation.	May occur. Suitable habitat is present in the program area.
Layne's ragwort *Packera layneae*	FT	SR	1B.2	Chaparral, cismontane woodland. Ultramafic soil (serpentine or gabbro); occasionally along streams. 656 to 3,560 feet in elevation. Blooms April to August.	May occur. Suitable habitat is present in the program area.
Closed-throated beardtongue *Penstemon personatus*			1B.2	Lower montane coniferous forest, upper montane coniferous forest, chaparral. Usually on N-facing slopes in metavolcanic soils. 3,494 to 6,955 feet in elevation. Blooms June to September.	May occur. Suitable habitat is present in the program area.
Bacigalupi's yampah *Perideridia bacigalupii*			4.2	Chaparral, lower montane coniferous forest. Steep rocky banks or slopes on serpentine. 1,476 to 3,396 feet in elevation. Blooms June to August.	May occur. Suitable habitat is present in the program area.
Stebbins' phacelia *Phacelia stebbinsii*			1B.2	Lower montane coniferous forest, cismontane woodland, meadows and seeps. Among rocks and rubble on metamorphic rock benches. 2,001 to 6,594 feet in elevation. Blooms May to July.	May occur. Suitable habitat is present in the program area.

Species	Listing Status[1]			Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State	CRPR		
whitebark pine *Pinus albicaulis*	PT			Subalpine coniferous forest near tree line; 6,600–12,140 in elevation; however, it is generally found above 8,000 feet in the northern Sierra. Blooms July to August.	May occur. Limited suitable habitat is present in the program area.
Sierra blue grass *Poa sierrae*			1B.3	Lower montane coniferous forest. Shady, moist, rocky slopes. Often in canyons. 1,198 to 4,921 feet in elevation. Blooms April to July.	May occur. Suitable habitat is present in the program area.
Nuttall's ribbon-leaved pondweed *Potamogeton epihydrus*			2B.2	Marshes and swamps. Shallow water, ponds, lakes, streams, irrigation ditches. 968 to 8,661 feet in elevation. Blooms July to September.	May occur. Suitable habitat is present in the program area.
White-stemmed pondweed *Potamogeton praelongus*			2B.3	Marshes and swamps. Deep water, lakes. 5,906 to 9,843 feet in elevation. Blooms July to August.	May occur. Suitable habitat is present in the program area.
Robbins' pondweed *Potamogeton robbinsii*			2B.3	Marshes and swamps. Deep water, lakes. 5,020 to 10,827 feet in elevation. Blooms July to August.	May occur. Suitable habitat is present in the program area.
Beautiful shootingstar *Primula pauciflora*			4.2	Great Basin scrub, meadows and seeps, pinyon-juniper woodland. Mesic sites. 3,281 to 7,808 feet in elevation. Blooms April to June.	May occur. Suitable habitat is present in the program area.
Sierra starwort *Pseudostellaria sierrae*			4.2	Chaparral, cismontane woodland, lower montane coniferous forest, upper montane coniferous forest. 4,019 to 7,201 feet in elevation. Blooms May to August.	May occur. Suitable habitat is present in the program area.
Alder buckthorn *Rhamnus alnifolia*			2B.2	Meadows and seeps, lower montane coniferous forest, upper montane coniferous forest, riparian scrub. Mesic sites. 4,692 to 7,005 feet in elevation. Blooms May to July.	May occur. Suitable habitat is present in the program area.
White beaked-rush *Rhynchospora alba*			2B.2	Bogs and fens, meadows and seeps, marshes and swamps. Freshwater marshes and sphagnum bogs. 197 to 6,693 feet in elevation. Blooms June to August.	May occur. Suitable habitat is present in the program area.
Brownish beaked-rush *Rhynchospora capitellata*			2B.2	Meadows and seeps, marshes and swamps, fens. 148 to 5,610 feet in elevation. Blooms July to August.	May occur. Suitable habitat is present in the program area.
Tahoe yellow cress *Rorippa subumbellata*		SE	1B.1	Lower montane coniferous forest, meadows and seeps. Sandy beaches, on shoreline of Lake Tahoe; on decomposed granite sand. 6,217 to 6,234 feet in elevation. Blooms May to September.	Not expected to occur. Suitable habitat is not present in the program area.
Water bulrush *Schoenoplectus subterminalis*			2B.3	Marshes and swamps, bogs and fens. Montane lake margins, in shallow water. 2,461 to 7,382 feet in elevation. Blooms June to August.	May occur. Suitable habitat is present in the program area.
Marsh skullcap *Scutellaria galericulata*			2B.2	Marshes and swamps, lower montane coniferous forest, meadows and seeps. Swamps and wet places. 0 to 6,398 feet in elevation. Blooms June to September.	May occur. Suitable habitat is present in the program area.
Giant checkerbloom *Sidalcea gigantea*			4.3	Moist to wet forested areas, such as in meadows or at the edges of wet meadows, along creeks, or at seeps and springs. 2,198 to 6,398 feet in elevation. Blooms July to October.	May occur. Suitable habitat is present in the program area.
Cut-leaf checkerbloom *Sidalcea multifida*			2B.3	Lower montane coniferous forest, meadows and seeps, Great Basin scrub, pinyon and juniper woodland. 5,741 to 9,186 feet in elevation. Blooms May to September.	May occur. Suitable habitat is present in the program area.
Scadden Flat checkerbloom *Sidalcea stipularis*		SE	1B.1	Wetland. Wet montane marshes fed by springs. 2,297 to 2,428 feet in elevation. Blooms July to August.	May occur. Suitable habitat is present in the program area.

Species	Listing Status[1]			Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State	CRPR		
Western campion *Silene occidentalis* ssp. *occidentalis*			4.3	Lower montane coniferous forest, upper montane coniferous forest, chaparral. Open, dry sites. 4,035 to 6,857 feet in elevation. Blooms June to August.	May occur. Suitable habitat is present in the program area.
Small bur-reed *Sparganium natans*			4.3	Marshes and swamps, bogs and fens. Lake and pond margins. 5,397 to 8,202 feet in elevation. Blooms June to September.	May occur. Suitable habitat is present in the program area.
Obtuse starwort *Stellaria obtusa*			4.3	Upper montane coniferous forest, lower montane coniferous forest, riparian woodland. Streams or seeps in conifer forest. 492 to 7,005 feet in elevation. Blooms May to September.	May occur. Suitable habitat is present in the program area.
Long-fruit jewelflower *Streptanthus longisiliquus*			4.3	Lower montane coniferous forest, cismontane woodland. Openings. 2,346 to 4,921 feet in elevation. Blooms April to September.	May occur. Suitable habitat is present in the program area.
True's mountain jewelflower *Streptanthus tortuosus* ssp. *truei*			1B.1	Lower montane coniferous forest. Partial shade on steep rocky slopes. 2,510 to 2,822 feet in elevation. Blooms June to July.	May occur. Suitable habitat is present in the program area.
Siskiyou Mountains huckleberry *Vaccinium coccineum*			3.3	Lower montane coniferous forest, upper montane coniferous forest. Rocky slopes, ridges, and bogs; typically on serpentine. 3,593 to 7,005 feet in elevation. Blooms June to August.	May occur. Suitable habitat is present in the program area.
Felt-leaved violet *Viola tomentosa*			4.2	Lower montane coniferous forest, subalpine coniferous forest, upper montane coniferous forest. In open, conifer forest in dry, gravelly soils. 4,708 to 6,562 feet in elevation. Blooms May to October.	May occur. Suitable habitat is present in the program area.

Notes: CRPR = California Rare Plant Rank.

[1] Legal Status Definitions

Federal:

FE Endangered (legally protected by ESA)
FT Threatened (legally protected by ESA)
PT Proposed Threatened (legally protected by ESA)

State:

SE Endangered (legally protected by CESA)
SR State Rare

California Rare Plant Ranks:

1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)
2B Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)
3 plant species about which we need more information—a review list
4 plants of limited distribution—a watch list

Threat Ranks:

0.1 Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)
0.2 Moderately threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat)
0.3 Not very threatened in California (<20% of occurrences are threatened and/or have low degree and immediacy of threat or no current threats known)

May Occur – Some or all of the species life history requirements are provided by habitat on the site; populations/occurrences may not be known to occur in the immediate vicinity but are known to occur in the region.

Not Expected to Occur – Species not likely or expected to occur due to marginal habitat quality or distance from known distribution.

Sources: CNDDB 2021; CNPS 2021.

Special-Status Wildlife

Table 4.3-3 provides a list of the special-status wildlife species that have been identified in the Nevada County Broadband Program Biological Resources Memorandum as occurring within the program area or vicinity, and describes their regulatory status, habitat, and potential for occurrence in the program area. A total of 41 special-status wildlife species have potential to occur within the biological study area.

Table 3.4-3 Special-Status Wildlife Species Known to Occur in the Region and Their Potential for Occurrence in the Program area

Species	Listing Status[1]		Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State		
Amphibians and Reptiles				
Southern long-toed salamander *Ambystoma macrodactylum sigillatum*		SSC	High elevation meadows and lakes in the Sierra Nevada, Cascade, and Klamath mountains. Aquatic larvae occur in ponds and lakes. Outside of breeding season adults are terrestrial and associated with underground burrows of mammals and moist areas under logs and rocks.	May occur. Suitable habitat is present in the program area. There are several documented occurrences within Nevada County (CNDDB 2021).
Western pond turtle *Emys marmorata*		SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6,000 feet elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	May occur. Suitable habitat is present in the program area. There are several documented occurrences within Nevada County (CNDDB 2021).
Coast horned lizard *Phrynosoma blainvillii*		SSC	Found in a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	May occur. Suitable habitat is present in the program area. There are several documented occurrences within Nevada County (CNDDB 2021).
Foothill yellow-legged frog *Rana boylii*		SE, SSC	Streams and rivers with rocky substrate and open, sunny banks, in forests, chaparral, and woodlands; sometimes found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools. Breeding occurs exclusively in streams and rivers and requires cobble-sized substrate for eggs and a minimum of 15 weeks of water for larval development.	May occur. Suitable breeding, movement, and foraging aquatic habitat occurs throughout the program area. There are several documented occurrences within Nevada County (CNDDB 2021).
California red-legged frog *Rana draytonii*	FT	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat. Frogs may make overland excursions of up to one mile through upland habitats in wet weather and can disperse up to two miles from breeding ponds.	May occur. There is only one known population of California red-legged frog in Nevada County, at Sailor Flat (Barry and Fellers 2013).
Sierra Nevada yellow-legged frog *Rana sierrae*	FE	ST	Occurs in upper elevation lakes, ponds, bogs, and slow-moving alpine streams. Most Sierra Nevada populations are found between 6,000–12,000 feet elevation. Almost always found within 3.3 feet of water, and associated with montane riparian habitats in lodgepole pine, ponderosa pine, Jeffrey pine, sugar pine, white fir, whitebark pine, and wet meadow vegetation types. Alpine lakes inhabited by mountain yellow-legged frogs generally have grassy or muddy	May occur. Suitable habitat is present in the program area. There are several documented occurrences within Nevada County (CNDDB 2021).

Species	Listing Status[1]		Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State		
			margin habitat, although below tree line sandy and rocky shores may be preferred. Suitable stream habitat can be highly variable, from high gradient streams with plunge pools and waterfalls, to low gradient sections through alpine meadows. Low-gradient streams are preferred because breeding and tadpole development cannot occur in streams with fast-moving water. Small streams are generally unoccupied and have no potential breeding locations because of the lack of depth for overwintering and refuge. Tadpoles may require 2 to 4 years to complete their aquatic development.	
Giant gartersnake *Thamnophis gigas*	FT	ST	Marsh and swamp, riparian scrub, wetland. Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California.	Not expected to occur. Nevada County is outside of the geographical range of this species.
Birds[2]				
Northern goshawk *Accipiter gentilis* (nesting)		SSC	North coast coniferous forest, subalpine coniferous forest, upper montane coniferous forest. Within, and in vicinity of, coniferous forest. Uses old nests and maintains alternate sites. Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	May occur. Suitable habitat is present in the program area. There are several documented nests and designated Protected Activity Centers within Tahoe National Forest and adjacent lands in Nevada County (data downloaded from USFS in 2022).
Tricolored blackbird *Agelaius tricolor* (nesting colony)		ST SSC	Freshwater marsh, marsh and swamp, swamp, wetland. Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	May occur. Suitable breeding and foraging habitat are present in the program area. Most breeding colonies are below 500 feet. Tricolored blackbird is uncommon in winter at high elevations in the Sierras, but foraging flocks have been found during the Grass Valley Christmas Bird Count at about 2,600 feet (Beedy and Pandolfino 2013).
Lesser sandhill crane *Antigone canadensis* (wintering)		SSC	Marsh and swamp, meadow and seep, wetland. Nests in wetland habitats in northeastern California; winters in the Central Valley. Prefers grain fields within 4 miles of a shallow body of water used as a communal roost site; irrigated pasture used as loafing sites.	Not expected to nest or overwinter. Sandhill crane is known to fly over during migration but rarely lands (Hansen et al. 2021). Suitable wetland habitats in the program area could be used for foraging and as stopover sites. Sandhill crane is not expected to nest or winter within the program area because the program area is outside of the breeding and wintering range for this species.
Greater sandhill crane *Antigone canadensis tabida* (nesting and wintering)		ST FP	Marsh and swamp, meadow and seep, wetland. Nests in wetland habitats in northeastern California; winters in the Central Valley. Prefers grain fields within 4-mile of a shallow body of water used as a communal roost site; irrigated pasture used as loafing sites.	Not expected to nest or overwinter. Sandhill crane is known to fly over during migration but rarely lands (Hansen et al. 2021). Suitable wetland habitats in the program area could be used for foraging and as stopover sites. A breeding pair with a preflight juvenile was found at Lake Van Norden a few years ago but no other

Species	Listing Status[1]		Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State		
				nesting occurrences have been documented since then.
Golden eagle *Aquila chrysaetos* (nesting and wintering)		FP	Broadleaved upland forest, cismontane woodland, coastal prairie, Great Basin grassland, Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodlands, upper montane coniferous forest, and valley and foothill grassland. Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	May occur. Suitable nesting and wintering habitat is present in the program area. There are many documented occurrences in Nevada County (eBird 2022).
Long-eared owl *Asio otus* (nesting)		SSC	Cismontane woodland, Great Basin scrub, riparian forest, riparian woodland, and upper montane coniferous forest. Riparian bottomlands grown to tall willows and cottonwoods; also, belts of live oak paralleling stream courses. Require adjacent open land productive of mice and the presence of old nests of crows, hawks, or magpies for breeding.	May occur. Suitable habitat is present in the program area. Uncommon breeders at low elevations in riparian habitats of the foothill zone but recorded nesting as high as the upper conifer zone on the west slope of the Sierras (Beedy and Pandolfino 2013). There is one documented nesting occurrence of long-eared owl on the western Nevada County border (CNDDB 2021).
Vaux's swift *Chaetura vauxi* (nesting)		SSC	Lower montane coniferous forest, north coast coniferous forest, old growth, redwood. Redwood, Douglas-fir, and other coniferous forests. Nests in large hollow trees and snags. Often nests in flocks. Forages over most terrains and habitats but shows a preference for foraging over rivers and lakes.	May occur. Suitable breeding habitat is present in the program area. Vaux's swift is uncommon in the Sierras and most observations are during migration (Beedy and Pandolfino 2013).
Northern harrier *Circus hudsonius* (nesting)		SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	May occur. Suitable breeding habitat is present in the program area. Northern harrier's breeding range extends from the lowest reaches of the foothill zone up into open oak savannahs on the west slope of the northern Sierras. On the east slope, northern harrier breeds at higher elevations in wet mountain meadows (Beedy and Pandolfino 2013).
Olive-sided flycatcher *Contopus cooperi* (nesting)		SSC	Nesting habitats are mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir and lodgepole pine. Most numerous in montane conifer forests where tall trees overlook canyons, meadows, lakes or other open terrain.	May occur. Suitable breeding habitat is present in forests in the program area. Olive-sided flycatcher is a summer resident int the Sierras and arrives in late-April or early May to breed and then departs by mid-August.
Black swift *Cypseloides niger* (nesting)		SSC	Within the western slope of the Sierra Nevada, occurs from Tulare to Butte County. Rare breeder within Madera and Alpine counties on the east slope of the Sierras (Hansen et al. 2021). Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons; forages widely.	May occur. Suitable waterfall habitat for breeding is limited in the program area. Uncommon and highly localized breeders between 3,000 and 7,500 feet on the west slope of the Sierras. The known breeding range on the east slope is further south than Nevada County (Beedy and Pandolfino 2013).

Species	Listing Status[1]		Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State		
White-tailed kite *Elanus leucurus* (nesting and wintering)		FP	Cismontane woodland, marsh and swamp, riparian woodland, valley and foothill grassland, and wetlands. Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	May occur. Suitable breeding habitat is present in the program area below 2,000 feet. However, white-tailed kite scarcely makes it into the western fringe of the Sierra foothills and have only a few known Sierra breeding areas (Beedy and Pandolfino 2013).
Willow flycatcher *Empidonax traillii* (nesting)		SE	Meadow and seep, riparian scrub, riparian woodland, and wetlands. Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters; 2,000-8,000 feet elevation. Requires dense willow thickets for nesting/roosting. Low, exposed branches are used for singing posts/hunting perches.	May occur. Limited suitable breeding habitat is present in the program area. Little willow flycatcher (*Empidonax traillii brewsteri*) is known to breed in the Donner Summit area and a few other scattered locations in Nevada County (Beedy and Pandolfino 2013; CNDDB 2021).
American peregrine falcon *Falco peregrinus anatum* (nesting)	FD	SD FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	May occur. Suitable nesting and foraging habitat are present in the program area. Pairs have used cliffs created by gravel-mining operations in Nevada County (Beedy and Pandolfino 2013).
Bald eagle *Haliaeetus leucocephalus* (nesting and wintering)		SE FP	Ocean shores, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	May occur. Large lakes and reservoirs in the program area provide suitable breeding and wintering habitat. Several documented nesting occurrences within lakes and reservoirs in Nevada County.
Yellow-breasted chat *Icteria virens* (nesting)		SSC	Riparian forest, riparian scrub, riparian woodland. Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 feet of ground.	May occur. Limited suitable breeding habitat is present in the program area. Yellow-breasted chat are uncommon breeders on the west slope of the Sierras up to about 2,500 feet (Beedy and Pandolfino 2013). There is one documented occurrence along Dry Creek in the vicinity of Spenceville Wildlife Area on the western edge of Nevada County (CNDDB 2021) and several other observations of yellow-breasted chat in Nevada County from eBird (eBird 2022).
California black rail *Laterallus jamaicensis coturniculus* (nesting)		ST FP	Inhabits freshwater marshes, wet meadows, and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	May occur. Suitable breeding habitat is present in the program area. Black rail are uncommon residents of the Sierra foothills and use more than 200 distinct locations from 300 to 1,000 feet in elevation in 4 counties, including Nevada County (Beedy and Pandolfino 2013).
American white pelican *Pelecanus erythrorhynchos* (nesting colony)		SSC	Colonial nester on large interior lakes. Nests on large lakes, providing safe roosting and breeding places in the form of well-sequestered islets.	Not expected to nest. American white pelican is known to fly over the Sierras during migration and use lakes in the vicinity of the program area, primarily on the east slope, as stopover or foraging sites. However, this species is not known to nest in lakes within Nevada County.

Species	Listing Status[1]		Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State		
				The nearest breeding colony is at Pyramid Lake in the state of Nevada.
Trumpeter swan *Olor buccinator* (nesting and wintering)		FP	Riverine wetlands, lakes, ponds, marshes; open wooded regions; and prairies. In winter, they can be found on tidal estuaries, freshwater streams, rivers, springs, and reservoirs.	May occur. Suitable wintering habitat is present in the program area. Trumpeter swan is considered a casual occurrence in the Sierras, meaning it is not encountered in the region most years, but a pattern of occurrence may exist over many years or decades. Trumpeter swan has been mainly documented from the eastern slope of the Sierras in winter through early spring (Beedy and Pandolfino 2013).
Yellow warbler *Setophaga petechia* (nesting)		SSC	Riparian forest, riparian scrub, riparian woodland. Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	May occur. Suitable habitat is present in the program area and there are documented breeding occurrences in Nevada County (CNDDB 2021).
Great gray owl *Strix nebulosa* (nesting)		SE	Lower montane coniferous forest, old growth, subalpine coniferous forest, upper montane coniferous forest. Resident of mixed conifer or red fir forest habitat, in or on edge of large meadows. Requires large diameter snags in a forest with high canopy closure, which provide a cool sub-canopy microclimate.	May occur but not expected to nest. Nonbreeding individuals, including wintering records at 3,000 feet near Nevada City (Beedy and Pandolfino 2013), have been documented in Nevada County but there are no breeding records of this species in the county (eBird 20221; CNDDB 2021).
California spotted owl *Strix occidentalis* (nesting and wintering)		SSC	Broadleaved upland forest, lower montane coniferous forest, and upper montane coniferous forest. Mixed conifer forest, often with an understory of black oaks and other deciduous hardwoods. Canopy closure >40 percent. Most often found in deep-shaded canyons, on north-facing slopes, and within 300 meters of water.	May occur. Suitable habitat is present in the program area. Many documented breeding and nonbreeding occurrences on non-federal lands within Nevada County.
Yellow-headed blackbird *Xanthocephalus* (nesting)		SSC	Nests in freshwater emergent wetlands with dense vegetation and deep water and only where large insects such as Odonata are abundant. Nesting timed with emergence of aquatic insects. Often along borders of lakes or ponds.	May occur. Suitable breeding habitat is present in the program area. Yellow-headed blackbirds are intermittent breeders at the old gravel ponds near Truckee, in eastern Nevada County (Beedy and Pandolfino 2013).
Fish				
Lahontan mountain sucker *Catostomus platyrhynchus*		SSC	Great Basin flowing waters. Restricted to the Lahontan drainage system and the north fork of the Feather River. This species generally occupies pool-like habitats and abundance is greatest in areas with dense cover.	May occur. The Sagehen Creek (HUC 160501020104), Boca Reservoir-Little Truckee River (HUC 16050102107), Gray Creek-Truckee River (HUC 160501020501), and Martis Creek (HUC 160501020204) watersheds have documented observations of this species (compiled by Ascent Environmental in 2022).

Species	Listing Status[1]		Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State		
Cui-ui *Chasmistes cujus*	FE		Migrate to the lower Truckee River to spawn between March and June and return to Pyramid Lake after spawning. Occupy habitat near the lake bottom and are generally found in near shore areas at depths less than 75 feet.	Not expected to occur. The program area is outside the range of this species.
Delta smelt *Hypomesus transpacificus*	FT	SE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 ppt. Most often at salinities < 2ppt.	Not expected to occur. The program area is outside the range of this species.
Lahontan cutthroat trout *Oncorhynchus clarkii henshawi*	FT		Great Basin flowing waters. Historically in all accessible cold waters of the Lahonton Basin in a wide variety of water temperatures and conditions. Cannot tolerate presence of other salmonids. Requires gravel riffles in streams for spawning.	May occur. The Sagehen Creek (HUC 160501020104), Trout Creek-Truckee River (HUC 160501020206), Prosser Creek (HUC 160501020205) and Martis Creek (HUC 160501020204) watersheds have documented observations of this species (compiled by Ascent Environmental in 2022).
Steelhead - Central Valley DPS *Oncorhynchus mykiss irideus* pop. 11	FT		Sacramento/San Joaquin flowing waters. Populations in the Sacramento and San Joaquin rivers and their tributaries.	May occur. The Woods Creek-Yuba River watershed in the program area is within this species extant distribution range and aquatic habitats could provide suitable habitat (compiled by Ascent Environmental in 2022).
Chinook salmon - Central Valley spring-run ESU *Oncorhynchus tshawytscha* pop. 11	FT	ST	Adult numbers depend on pool depth and volume, amount of cover, and proximity to gravel. Water temps >27 C are lethal to adults. Federal listing refers to populations spawning in Sacramento River and tributaries.	May occur. The Woods Creek-Yuba River (HUC 180201251002) and Slacks Ravine-Deer Creek (HUC 180201250804) watersheds in the program area have documented observations of this species (compiled by Ascent Environmental in 2022).
Mountain whitefish *Prosopium williamsoni*		SSC	In California occur at elevations of 4,593 to 7,546 feet. Inhabit clear, cold streams and rivers and are associated with large pools over a meter in depth. Can also occur in natural lakes and reservoirs, typically close to the bottom in fairly deep water, except during spawning season. Spawning takes place in riffles where depths are greater than 75 cm and substrates are coarse gravel, cobble, and rocks less than 50 cm in diameter. Low tolerance for high water temperatures and poor water quality.	May occur. The Sagehen Creek (HUC 160501020104), Boca Reservoir-Little Truckee River (HUC 16050102107), Gray Creek-Truckee River (HUC 160501020501), Trout Creek-Truckee River (HUC 160501020206), and Prosser Creek (HUC 160501020205) watersheds have documented observations of this species (compiled by Ascent Environmental in 2022).
Invertebrates				
Western bumble bee *Bombus occidentalis*			In California, western bumble bee populations are currently largely restricted to high elevation sites in the Sierra Nevada and a few observations have been made on the northern California coast (Xerces Society 2018). Forages on a variety of flowering plants for pollen and nectar but shows a strong preference to perennial plants as opposed to annuals. Also benefits from the presence of bunch grasses. Queens overwinter in the ground in abandoned rodent nests	May occur. Suitable habitat is present in the program area.

Species	Listing Status[1]		Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State		
			at depths from 6-18 inches, and typically emerge about mid-March.	
Monarch - California overwintering population *Danaus plexippus* pop. 1	FC		Closed-cone coniferous forest. Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	May occur. Monarch butterflies may forage and breed in the program area. However, the program area is outside of the overwintering range for this species.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT		Riparian scrub. Occurs only in the Central Valley of California, in association with blue elderberry (*Sambucus nigra* ssp. *caerulea*). Prefers to lay eggs in elderberry shrubs inside stems measuring 2 to 8 inches in diameter. Some preference shown for "stressed" elderberry plants.	Not expected to occur. Although the historical range for this species included the western edge of Nevada County, the program area is outside of the current range for this species.
Crustaceans				
Vernal pool fairy shrimp *Branchinecta lynchi*	FT		Valley and foothill grassland, vernal pool, wetland. Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Not expected to occur. Suitable vernal pool habitat is not present in the program area.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE		Valley and foothill grassland, vernal pool, wetland. Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	Not expected to occur. Suitable vernal pool habitat is not present in the program area.
Mammals				
Pallid bat *Antrozous pallidus*		SSC	Chaparral, coastal scrub, desert wash, Great Basin grassland, Great Basin scrub, Mojavean desert scrub, riparian woodland, Sonoran desert scrub, upper montane coniferous forest, valley and foothill grassland. Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	May occur. Suitable roost habitat is present in buildings and the bole cavities of oak trees in the program area. The program area also contains suitable open habitats for foraging.
Sierra Nevada mountain beaver *Aplodontia rufa californica*		SSC	Riparian forest, riparian scrub, riparian woodland. Dense growth of small deciduous trees and shrubs, wet soil, and abundance of forbs in the Sierra Nevada and east slope. Needs dense understory for food and cover. Burrows into soft soil. Needs abundant supply of water.	May occur. Suitable habitat is present in the program area. There are several documented occurrences within Nevada County (CNDDB 2021).
Ringtail *Bassariscus astutus*		FP	Riparian habitats, forest habitats, and shrub habitats in lower to middle elevations. Usually found within 0.6 mile of a permanent water source.	May occur. Suitable habitat is present in the program area.
Townsend's big-eared bat *Corynorhinus townsendii*		SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from cave, mine, and building walls and	May occur. Suitable roosting and foraging habitat are present in the program area. Several recent documented maternity roosts in buildings (CNDDB 2021).

Species	Listing Status[1]		Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State		
			ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	
Spotted bat *Euderma maculatum*		SSC	Occupies a wide variety of habitats from arid deserts and grasslands through mixed conifer forests. Feeds over water and along washes. Feeds almost entirely on moths. Needs rock crevices in cliffs or caves for roosting.	May occur. Suitable roosting and foraging habitat are present in the program area.
California wolverine *Gulo*		ST FP	Found in the north coast mountains and the Sierra Nevada. Found in a wide variety of high elevation habitats. Needs water source. Uses caves, logs, burrows for cover and den area. Hunts in more open areas. Can travel long distances.	May occur. Suitable habitat is present in the program area. This species was documented within and adjacent to the Tahoe National Forest in Nevada County in 2008 and again in 2014 (CNDDB 2021).
Western red bat *Lasiurus blossevillii*		SSC	Cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodland. Roosts primarily in trees, 2-40 feet above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	May occur. Suitable roosting and foraging habitat are present in the program area.
Sierra Nevada snowshoe hare *Lepus americanus tahoensis*		SSC	Boreal riparian areas in the Sierra Nevada. Thickets of deciduous trees in riparian areas and thickets of young conifers.	May occur. Suitable habitat is present in the program area. The only documented occurrences in Nevada County are specimens collected prior to the 1970's. However, a recent observation was documented just over a mile from the county line in Sierra County (CNDDB 2021).
Western white-tailed jackrabbit *Lepus townsendii*		SSC	Preferred habitats are sagebrush, subalpine conifer, juniper, alpine dwarf-shrub, and perennial grassland. Also uses low sagebrush, wet meadow, and early successional stages of various conifer habitats.	Not expected to occur. Although suitable habitat is present in the program area, this species has not been documented in Nevada County. The closest occurrences are specimens collected in the 1920's in the Tahoe Basin and Long Valley in Lassen County.
Fisher - West Coast DPS *Pekania pennanti*	FE	ST, SSC	Intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. Uses cavities, snags, logs and rocky areas for cover and denning. Needs large areas of mature, dense forest. Fishers are considered extirpated throughout much of the Central and Northern Sierra Nevada (Zielinski, Kucera, and Ba 1995). Federal endangered and State threatened status applies to Southern Sierra Nevada ESU.	Not expected to occur. Fisher is considered to be extirpated from most of the northern and central Sierra Nevada (Zielinski et al. 1995; Sweitzer et al. 2015) and has not been detected within Nevada County since the 1980s (CNDDB 2021).
American badger *Taxidea taxus*		SSC	Alkali marsh, alkali playa, alpine, alpine dwarf scrub, bog a fen, brackish marsh, broadleaved upland forest, chaparral, chenopod scrub, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal dunes, coastal prairie. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food,	Not expected to occur. Suitable habitat is present in the program area; however, there are no records of this species in Nevada County.

Species	Listing Status[1]		Habitat	Potential for Occurrence in the Countywide Program Area
	Federal	State		
			friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	
Sierra Nevada red fox *Vulpes necator*	FE	ST	Alpine, alpine dwarf scrub, broadleaved upland forest, meadow and seep, riparian scrub, subalpine coniferous forest, upper montane coniferous forest, wetland. Historically found from the Cascades down to the Sierra Nevada. Found in a variety of habitats from wet meadows to forested areas. Use dense vegetation and rocky areas for cover and den sites. Prefer forests interspersed with meadows or alpine fell-fields. Most sightings in the Sierra Nevada are above 7,000 feet, ranging from 3,900 to 11,900 feet. The federal endangered status applies to the Sierra Nevada DPS.	Not expected to occur. Suitable habitat is present in the program area. However, currently there are only two populations known to exist (near Lassen Peak and near Sonora Pass) (CNDDB 2021).

Notes: CNDDB = California Natural Diversity Database; DPS = distinct population segment; ESU = evolutionary significant unit.

[1] Legal Status Definitions

Federal:

FE Endangered (legally protected)
FT Threatened (legally protected)
FP Proposed (legally protected)
FD Delisted

State:

FP Fully protected (legally protected)
SSC Species of special concern (no formal protection other than CEQA consideration)
SD Delisted
SE Endangered (legally protected)
ST Threatened (legally protected)

[2] Because the distribution and abundance of individual bird species varies seasonally, the season, or life phase, during which the species is of conservation concern in California is provided in parentheses beneath the bird species scientific name. There is potential for any of these bird species to fly over or pass through the program area, however, these species would not necessarily be nesting on or otherwise residing on the program area during the season or life phase when the species is of conservation concern in California.

Potential for Occurrence Definitions

May Occur – Some or all of the species' life history requirements are provided by habitat on the site; populations/occurrences may not be known to occur in the immediate vicinity but are known to occur in the region.

Not Expected to Occur – Species not likely or expected to occur due to marginal habitat quality or distance from known occurrences.

Sources: CNDDB 2021; USFWS 2022; eBird 2022.

Critical Habitat

"Critical habitat" is a term defined and used in the ESA. It refers to specific geographic areas designated by USFWS or NMFS that contain features essential to the conservation of an endangered or threatened species and that may require special management and protection. Critical habitat designations affect only federal agency actions or federally funded or permitted activities. Critical habitat designations do not affect activities by private landowners if there is no federal "nexus"—that is, no federal funding or authorization. Critical habitat for California red-legged frog and Sierra Nevada yellow-legged frog is present within the program area.

California Red-legged Frog

There are approximately 752 acres of critical habitat for California red-legged frog within the biological study area.

Sierra Nevada Yellow-legged Frog

There are approximately 1,606 acres of critical habitat for Sierra Nevada yellow-legged frog within the biological study area. The majority of the critical habitat for this species is within Tahoe National Forest and other federal land.

SENSITIVE NATURAL COMMUNITIES

Sensitive natural communities are those native plant communities defined by CDFW as having limited distribution statewide or within a county or region and that are often vulnerable to environmental effects of projects (CDFW 2018). These communities may or may not contain special-status plants or their habitat (CDFW 2018). CDFW designates sensitive natural communities based on their state rarity and threat ranking using NatureServe's Heritage Methodology. Natural communities with rarity ranks of S1 to S3, where S1 is critically imperiled, S2 is imperiled, and S3 is vulnerable, are considered sensitive natural communities to be addressed in the environmental review processes of CEQA and its equivalents (CDFW 2018). Sensitive natural communities are generally identified at the alliance level of vegetation classification hierarchy using the Manual of California Vegetation (Sawyer et al. 2009). Known occurrences of sensitive natural communities are included in the CNDDB; however, no new occurrences have been added to the CNDDB since the mid-1990s when funding was cut for this portion of the CNDDB program, and the legacy sensitive natural communities in CNDDB are classified according to *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), which is no longer supported by the State of California and has been superseded by the Manual of California Vegetation.

In addition to habitats officially identified by CDFW as sensitive natural communities, other sensitive habitats consist of those of special concern to resource agencies because of their rarity (e.g., fens) and/or value as wildlife habitat (e.g., oak woodlands, late seral forest), wetlands and other waters of the United States that are afforded specific consideration under Section 404 of the Clean Water Act, wetlands and waters protected pursuant to the state's Porter-Cologne Water Quality Control Act, and lake and stream and associated riparian habitats subject to regulation by CDFW under Section 1602 of the California Fish and Game Code. County lead agencies must address impacts to oak woodlands in environmental documents pursuant to the Oak Woodlands Conservation Act and Public Resources Code Section 21083.4. In addition, the Nevada County Tree Ordinance provides protection for certain oak trees and oak groves. The sensitive natural communities associated with each CWHR type and their potential to occur within the program area and Spiral Fiber program area are listed in Table 3.4-4.

Table 3.4-4 Sensitive Natural Communities with Potential to Occur in the Program Area

Sensitive Natural Community	Rarity Rank[1]	CWHR Type	Occurrence Potential in the Program Area
Forest/Woodland			
Aspen Groves	S3.2	Aspen	Known to Occur
Bigleaf Maple Forest and Woodland	S3	Douglas-Fir, Montane Hardwood, Montane Hardwood-Conifer	May Occur
California Bay Forest	S3	Coastal Oak Woodland	May Occur
California Buckeye Grove	S3	Montane Hardwood	May Occur
Douglas-Fir – Tanoak Forest and Woodland	S3	Douglas-Fir	May Occur
Incense Cedar Forest and Woodland	S3	Sierran Mixed Conifer	May Occur
Madrone Forest	S3.2	Coastal Oak Woodland	May Occur
Tanoak Forest	S3.2	Montane Hardwood	May Occur
Ultramafic Cypress Woodland	S3	Closed-Cone Pine-Cypress	May Occur
Valley Oak Woodland and Forest	S3	Valley Oak Woodland	May Occur
Shrub/Scrub			
Alpine Laurel Heath	S3	Wet Meadow	May Occur
Bog Blueberry Wet Meadow	S3	Wet Meadow	May Occur
Bush Chinquapin Chaparral	S3.3	Montane Chaparral	May Occur
Canyon Live Oak – Interior Live Oak Chaparral	S3S4	Mixed Chaparral	May Occur
Greenleaf Manzanita – Pinemat Manzanita Chaparral	S3S4	Montane Chaparral	May Occur

Sensitive Natural Community	Rarity Rank[1]	CWHR Type	Occurrence Potential in the Program Area
Hoary, Common, and Stanford Manzanita Chaparral	S3	Mixed Chaparral	May Occur
Parry's Rabbitbrush Scrub	S3	Sagebrush	May Occur
Silver Sagebrush Wet Shrubland	S3	Sagebrush	May Occur
White Mountain Heather Heath	S3	Wet Meadow	May Occur
Herbaceous			
Black Alpine Sedge Meadow	S3	Wet Meadow	May Occur
Bluejoint Reed Grass Meadow	S3	Perennial Grassland, Wet Meadow	May Occur
Blue Wild Rye Montane Meadow	S3	Perennial Grassland, Wet Meadow	May Occur
Buckwheat / Pine Bluegrass Dwarf-Shrubland	S3	Perennial Grassland	May Occur
California Brome – Blue Wildrye Prairie	S3	Perennial Grassland, Wet Meadow	May Occur
California Pitcher Plant Fen	S3	Wet Meadow	May Occur
Common Monkey Flower Seep	S3	Fresh Emergent Wetland, Wet Meadow	May Occur
Deer Grass Bed	S2	Perennial Grassland	May Occur
Dense Sedge Marsh	S2	Fresh Emergent Wetland	May Occur
Field Horsetail - Scouringrush Horsetail - Variegated Scouringrush Wet Meadow	S3S4	Fresh Emergent Wetland, Wet Meadow	May Occur
Floating Mats of Weak Manna Grass	S3	Fresh Emergent Wetland, Wet Meadow	May Occur
Hardstem and California Bulrush Marsh	S3S4	Fresh Emergent Wetland	May Occur
Heller's Sedge Fell-Field	S2	Wet Meadow	May Occur
Heretic Penstemon Patch	S3	Wet Meadow	May Occur
Iris-Leaf Rush Seep	S2	Fresh Emergent Wetland, Wet Meadow	May Occur
Jone's Sedge Turf	S3	Wet Meadow	May Occur
Long-Stalk Clover Meadow	S3	Wet Meadow	May Occur
Manna Grass Meadow	S3	Wet Meadow	May Occur
Mats of Bur-Reed Leaves	S3	Fresh Emergent Wetland	May Occur
Needle Grass - Melic Grass Grassland	S3S4	Perennial Grassland	May Occur
Needle Spike Rush Stand	S2	Annual Grassland, Wet Meadow	May Occur
Onesided Bluegrass - Mat Muhly - Douglas' Sedge Moist Meadow	S3	Perennial Grassland, Wet Meadow	May Occur
Pondweed Mat	S3	Fresh Emergent Wetland	May Occur
Quillwort Bed	S3	Fresh Emergent Wetland	May Occur
Shore Sedge Fen	S2	Wet Meadow	May Occur
Short-Beaked Sedge Fen	S3	Wet Meadow	May Occur
Showy Sedge Sod	S3	Wet Meadow	May Occur
Sierra Alpine Sedge Turf	S3	Wet Meadow	May Occur
Sierra Rush Marsh	S3	Wet Meadow	May Occur
Slender Sedge Meadow	S3	Wet Meadow	May Occur
Small-Fruited Bulrush Marsh	S2	Fresh Emergent Wetland, Wet Meadow	May Occur
Small-Fruited Sedge Meadow	S2	Perennial Grassland	May Occur
Small-Winged Sedge Meadow	S2	Wet Meadow	May Occur

Sensitive Natural Community	Rarity Rank[1]	CWHR Type	Occurrence Potential in the Program Area
Three-Way Sedge Meadow	S1	Wet Meadow	May Occur
Twotooth Sedge Seep	S3	Wet Meadow	May Occur
Water Sedge and Lakeshore Sedge Meadow	S3	Wet Meadow	May Occur
Western False Asphodel - California Bog Asphodel Fen	S2	Wet Meadow	May Occur
White-Root Bed	S2	Wet Meadow	May Occur
White-Tip Clover Swale	S3	Annual Grassland, Wet Meadow	May Occur
Wild Mountain Oat Grass Meadow	S3	Wet Meadow	May Occur
Woodland Sedge Fen	S2	Wet Meadow	May Occur
Yellow Pond-Lily Mat	S3	Fresh Emergent Wetland	May Occur
Riparian			
Black Cottonwood Forest and Woodland	S3	Montane Riparian, Valley Foothill Riparian	May Occur
Booth's Willow- Geyer's Willow – Yellow Willow Thicket	S2	Montane Riparian, Wet Meadow	May Occur
Button Willow Thicket	S2	Valley Foothill Riparian	May Occur
California Coffeeberry – Western Azalea Scrub – Brewer's Willow	S3	Valley Foothill Riparian, Fresh Emergent Wetland	May Occur
California Rose Briar Patch	S3	Valley Foothill Riparian	May Occur
Fremont Cottonwood Forest and Woodland	S3.2	Montane Riparian, Valley Foothill Riparian	May Occur
Goodding's Willow – Red Willow Riparian Woodland and Forest	S3	Valley Foothill Riparian, Fresh Emergent Wetland	May Occur
Jepson Willow Thicket	S3	Montane Riparian	May Occur
Lemmon's Willow Thicket	S3	Montane Riparian	May Occur
Mountain Alder Thicket	S3	Montane Riparian	May Occur
Oregon Ash Grove	S3.2	Montane Riparian, Valley Foothill Riparian	May Occur
Red Osier Dogwood- Interior Rose- Currant Thicket	S3	Montane Riparian	May Occur
Rocky Mountain Maple Thicket	S3	Montane Riparian	May Occur
Sierran Willow Thicket	S3	Wet Meadow	May Occur
Torrent Sedge Patch	S3	Montane Riparian, Valley Foothill Riparian	May Occur
Valley Oak Riparian Forest and Woodland	S3	Valley Oak Woodland	May Occur
Western Labrador-tea Thicket	S2	Montane Riparian, Fresh Emergent Wetland	May Occur
Sparsely or Non-Vegetated			
Onion - Twistflower - Dwarf-Flax Serpentinite Rock Outcrop	S2S3	Barren	May Occur
Pink Saxifrage Patch	S3	Wet Meadow	May Occur

[1] Mixed ranking (i.e., S3S4, S2S3) is assigned when not enough data has not been collected for final rank determination.

Sources: Sawyer et al. 2009, Compiled by Ascent Environmental in 2022.

WILDLIFE MOVEMENT CORRIDORS

Effects on wildlife movement are an important consideration when assessing the potential impacts of any project. At a small enough scale, any project or activity can potentially affect the movement of wildlife if any wildlife are present at all. In general, however, the term "wildlife movement corridor" means an area of habitat that is important for the movement of wildlife between larger habitat areas. Wildlife movement corridors provide connections between two or more areas of habitat that would otherwise be isolated and unusable. Often drainages, creeks, riparian areas, ridgelines, or topographic contours at bases of slopes are used by wildlife as movement corridors as they can provide cover and access across a landscape. Wildlife movement corridors are important for maintaining population levels and genetic diversity.

Some of the important areas for habitat connectivity in California were mapped as Essential Connectivity Areas (ECA) for the California Essential Habitat Connectivity Project, which was commissioned by the California Department of Transportation and CDFW with the purpose of making transportation and land-use planning more efficient and less costly, while helping reduce dangerous wildlife-vehicle collisions (Spencer et al. 2010). The ECAs were not developed for the purposes of defining areas subject to specific regulations by CDFW or other agencies. The program area is within identified ECAs or Natural Landscape Blocks (CDFW 2022). However, the fiber optic line would be buried or would be installed through aerial stringing and therefore would not create barriers to wildlife movement. In addition, all fiber optic line installation would occur along public and private roadways and within previously disturbed and/or developed areas, which are areas subject to significant existing anthropogenic disturbance, and are an existing impediment to wildlife movement.

NATIVE WILDLIFE NURSERY SITES

Nursery sites are locations where fish and wildlife concentrate for birthing and/or raising young, such as nesting rookeries for birds, spawning areas for native fish, fawning areas for deer, and maternal roosts for bats. Nursery sites are considered for native wildlife that are not defined and otherwise considered under CEQA as special-status species. The program area could contain a variety of wildlife nursery sites, including critical fawning areas for mule deer herds. Native nursery sites are not mapped for the program area but would need to be identified and evaluated at a project-specific level as individual fiber projects are proposed.

3.4.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

This impact evaluation is based on review of aerial photographs, and information from the Nevada County Broadband Program Biological Resources Memorandum addresses biological resources in the county. All fiber optic line installation would be confined within the program area, generally on paved surfaces or immediately adjacent to the edge of a paved or previously disturbed surface.

THRESHOLDS OF SIGNIFICANCE

An impact on biological resources is considered significant if implementation of program would do any of the following:

- 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 CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS;

- 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;
- 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; and/or
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: Result in Disturbance to or Loss of Special-Status Species and Habitat

Fiber optic line installation activities, including ground disturbance and vegetation removal, could result in direct removal or destruction of special-status species, or their habitat, where natural habitats occur within the program area. Because the loss of special-status species or their habitat could substantially affect the abundance, distribution, and viability of local and regional populations of these species, this would be a **potentially significant** impact.

For the purposes of this analysis, special-status plant and animal species include those designations described in Section 3.4.2, "Environmental Setting," above. A total of 78 special-status plant species and 41 special-status wildlife species are known or have potential to occur within the policy area (Tables 3.4-2 and 3.4-3). Special-status species known to occur in the county are commonly associated with natural habitats, such as chaparral, woodland, and coniferous forests, and sensitive habitats, such as riparian and wetland habitats. Fiber optic line installation that occurs in the vicinity of rivers and creeks may be within habitat suitable for species such as foothill and Sierra Nevada yellow-legged frogs and various fish species. In addition to the rivers and creeks that may be disturbed, fiber optic line installation could disturb natural upland habitats and the sensitive plant and animal species that may occupy them, if these occur within along public and private roadways or previously disturbed and/or developed areas. Furthermore, the wide variety of habitats within Nevada County, including those already largely developed, can support many species of nesting birds, including special-status species such as bald eagle and California spotted owl, as well as many common bird species that are protected by MBTA and California Fish and Game Code. Disturbance of special-status plants such as the federally listed endangered Stebbins morning glory could result in direct loss of individuals, reductions in local population size, or reduced reproductive success.

Potential direct impacts on special-status species include injury or mortality that may occur during fiber optic line installation. Direct impacts also include habitat modification and loss that would result in mortality or otherwise alter foraging and breeding behavior substantially enough to cause injury to special-status wildlife species. Indirect impacts associated with directional drilling and other construction activities near waterways include release of contaminated runoff into sensitive habitats, or "frac-out" (i.e., the escape of drilling materials or sediment into the environment) into waterways or soils. Other indirect impacts include increased level of noise during installation activities, and the introduction or spread of invasive species or noxious weeds. Indirect impacts could be caused by the spread of invasive species or noxious weeds that displace native species or alter habitat towards a state that is unsuitable for special-status species. For example, the spread of certain weed species can reduce the biodiversity of native habitats, potentially eliminating special-status plant species and reducing the availability of suitable forage and breeding sites for special-status animal species.

However, the construction of individual fiber projects is not expected to have substantial direct impacts to special-status species or their habitat because construction activities would generally occur in disturbed areas. The fiber optic line would be installed by trenching within the paved roadway or by plowing within the adjacent road shoulder. The unpaved roadways or other previously disturbed areas are not likely to support special-status species because they are generally barren of vegetation and highly compacted and disturbed due to routine grading, weed control, and road maintenance. Staging and lay-down sites would similarly be located in paved or previously disturbed areas that are not likely to support special-status species. However, there is potential for some natural habitats to occur within

the program area, particularly in more rural areas of the county, and these habitats could support special-status species that could be harmed or killed during program implementation. For this reason, the impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-1a: Review and Survey for Project-Specific Biological Resources

Proponents of individual fiber projects will retain a qualified biologist to conduct a data review and reconnaissance-level survey prior to fiber optic line installation to identify whether any special-status plant or animal species, riparian or other sensitive habitats, sensitive natural community, or wildlife nursery site (e.g., bat maternity roosts, deer fawning areas, heron or egret rookeries) could be affected. The data review will include the biological resources setting, species and sensitive natural communities tables, and habitat information in this PEIR as well as review of the best available, current data for the area, including vegetation mapping data, CNDDB, California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California, relevant Biogeographic Information and Observation System (BIOS) queries, and relevant general and regional plans. If suitable habitat for sensitive biological surveys is present based on the results of the data review and survey, the project proponent will do one of the following:

- Suitable Habitat Is Present but Can Be Clearly Avoided. If, based on the data review and reconnaissance-level survey, the qualified biologist determines that suitable habitat for sensitive biological resources is present but adverse effects on the suitable habitat can clearly be avoided through one of the following methods, the avoidance mechanism will be implemented prior to initiating ground disturbance and will remain in effect throughout the fiber optic line installation:
  - Physically avoid the suitable habitat, including using directional drilling or aerial stringing instead of trenching or plowing, or
  - Conduct fiber optic line installation outside of the season when a sensitive resource could be present within the suitable habitat or outside the season of sensitivity (e.g., outside of special-status bird nesting season, or outside of maternity and rearing season at wildlife nursery sites).
  - Physical avoidance will include establishing environmentally sensitive areas through flagging, fencing, stakes, or clear, existing landscape demarcations (e.g., edge of a roadway) to delineate the boundary of the avoidance area around the suitable habitat. For physical avoidance, a buffer may be implemented as determined necessary by the qualified biologist.
- Suitable Habitat Cannot Be Avoided. Further review and surveys will be conducted to determine presence/absence of sensitive biological resources that may be affected, as described in the mitigation measures below. Focused or protocol-level surveys will be conducted as necessary to determine presence/absence. If protocol surveys are conducted, survey procedures will adhere to methodologies approved by resource agencies and the scientific community, such as those that are available on the CDFW webpage at: https://www.wildlife.ca.gov/Conservation/Survey-Protocols. More specific survey requirements and avoidance/minimization measures may be required, as addressed by other mitigation measures.

Mitigation Measure 3.4-1b: Develop and Implement a Worker Environmental Awareness Program

Proponent of individual fiber projects will require crew members and contractors to receive training from a qualified biologist prior to beginning fiber optic line installation activities. The training will describe the appropriate work practices necessary to effectively implement the biological mitigation measures and to comply with the applicable environmental laws and regulations. The training will include the identification, relevant life history information, and avoidance of pertinent special-status species; identification and avoidance of sensitive natural communities and habitats with the potential to occur in the project area for individual fiber projects; impact minimization procedures; and reporting requirements. The training will instruct workers to allow any wildlife encountered during construction activities to leave the area unharmed and report encounters to a qualified biologist. The qualified biologist will immediately contact CDFW or USFWS, as appropriate, regarding relocation protocol if any wildlife protected by

California Endangered Species Act (CESA) or Federal Endangered Species Act (ESA) is encountered and cannot leave the site on its own.

Mitigation Measure 3.4-1c: Special-Status Plant Surveys, Protection, and Mitigation

- If Mitigation Measure 3.4-1a determines that suitable habitat for special-status plant species is present and cannot be avoided, proponents of individual fiber projects will retain a qualified botanist to conduct protocol-level surveys during the appropriate bloom period for special-status plant species with the potential to be affected by fiber optic line installation following the CDFW "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities" (CDFW 2018).
- If special-status plant species are not found, the botanist shall document the findings in a letter report to the proponent and no further mitigation shall be required.
- If special-status plant species are found on the project site and are located outside of the proposed trench or plow line, and can be avoided, the proponent shall establish and maintain a buffer around special-status plants to be retained to prevent disturbance to the plants.
- Alternatively, if feasible, directional drilling could be used in place of trenching or plowing to avoid direct and indirect impacts to special-status plant species. The directional drilling shall be at a depth and length that completely avoids the seedbank and root zone of special-status plants.
- If any state- or federally listed or CNPS List 1 or CNPS List 2 special-status plant species are found that cannot be avoided during construction and directional drilling is not a feasible option, the applicant shall consult with CDFW and/or USFWS, depending on species status, to determine the appropriate mitigation measures for direct and indirect impacts that could occur because of project construction and shall implement the agreed-upon mitigation measures to achieve no net loss of occupied habitat or individuals. Mitigation measures may include preserving and enhancing existing populations, creation of off-site populations on mitigation sites through seed collection or transplantation, and/or restoring or creating suitable habitat in sufficient quantities to achieve no net loss of occupied habitat and/or individuals. A mitigation and monitoring plan shall be developed describing how unavoidable losses of special-status plants shall be compensated. The mitigation and monitoring plan shall be submitted to CDFW and/or USFWS for review and comment. The final mitigation strategy for directly affected plant species shall be determined by the CDFW and the USFWS through the mitigation plan approval process.
- For state-listed plants, it may be necessary to obtain an incidental take permit under Fish and Game Code Section 2081. The project proponent shall consult with the CDFW to determine whether a 2081 permit is required and obtain all required authorizations prior to initiation of activities that could affect state-listed plants.
- If CNPS List 3 or CNPS List 4 special-status plant species are found that cannot be avoided during construction, Nevada County shall determine if the impacts to these plant occurrences could substantially affect the local population of these species based on their local rarity and significance. If the County determines project losses of the CNPS List 3 of 4 plant species could result in extirpation of the species from the County, or result in loss of viability of the species, the project proponent shall develop a mitigation plan for these species and submit it to the County for review and approval. Possible mitigation for impacts to CNPS List 4 plant species can include implementation of a program to transplant, salvage, cultivate, or re-establish the species at suitable sites (if feasible), or preservation of off-site occupied habitat through a conservation easement.
- If relocation efforts are part of the mitigation plan, the plan shall include details on the methods to be used, including collection, storage, propagation, receptor site preparation, installation, long-term protection and management, monitoring and reporting requirements, success criteria, and remedial action responsibilities should the initial effort fail to meet long-term monitoring requirements.

  Success criteria for preserved and compensatory populations shall include:

  - The extent of occupied area and plant density (number of plants per unit area) in compensatory populations shall be equal to or greater than the affected occupied habitat prior to project implementation or to nearby reference populations.

- Compensatory and preserved populations shall be self-producing. Populations shall be considered self-producing when:
  - plants reestablish annually for a minimum of 5 years with no human intervention such as supplemental seeding; and
  - reestablished and preserved habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types in the project vicinity.

- If off-site mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures shall be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, success criteria such as those listed above and other details, as appropriate to target the preservation of long-term viable populations.

Mitigation Measure 3.4-1d: Special-Status Wildlife Surveys, Protection, and Mitigation

- If Mitigation Measure 3.4-1a determines that suitable habitat for special-status wildlife species is present and cannot be avoided, proponents of individual fiber projects will require a qualified biologist to conduct focused or protocol-level surveys for special-status wildlife species with potential to be directly or indirectly affected by fiber optic line installation. This determination will be based on species distribution, known occurrences relative to the project area for individual fiber projects, and the presence of suitable habitat for these species in or near the project area. The survey area will be determined by a qualified biologist based on the species and habitats and any recommended buffer distances in agency protocols.
- The qualified biologist will determine if following an established protocol is required, in consultation with the appropriate resource agency. Survey timing and methodology will follow established survey protocols, where protocols are required. Unless otherwise specified in a protocol, the survey will be conducted no more than 14 days prior to the beginning of construction activities that could affect special-status wildlife or their habitat. Focused or protocol surveys for a special-status species with potential to occur in the project area may not be required if presence of the species is assumed.
- If protocol surveys determine a special-status species is not present, the qualified biologist shall document the findings in a letter report to the appropriate agency and the proponent and no further mitigation shall be required.
- If special-status wildlife species are found on the project site and the species or habitat for the species is located outside of the proposed fiber optic line installation area for trenching or plowing, and can be avoided, and a qualified biologist determines direct and indirect impacts will be negligible, the proponent shall establish and maintain a buffer around special-status species habitat to be retained to prevent disturbance to the species.
- If special-status wildlife species or species habitat are found that cannot be avoided during construction, the following will apply:
- For species listed as threatened or endangered under ESA or CESA, existing state and federal laws require consultation and take authorization. Potential impacts will be addressed through implementation of project-specific compensatory or other mitigation for any adverse effects on these species as a condition of project approval. Specifically, USFWS and CDFW would not permit a project that would degrade habitat or result in take of a state or federally listed species without compensatory mitigation to offset losses of state or federally listed species and their habitat. Nevada County will require proponents of individual fiber projects to obtain any required take permits prior to project implementation.
- For other special-status species that have less formal regulatory protection (e.g., CDFW species of special concern), significant impacts would be minimized by modifying the installation method to avoid special-status species by using directional drilling or aerial installation, and through development and implementation of project-specific mitigation measures consistent with applicable state and federal requirements and standards for any significant impacts as a condition of project approval to reduce impacts to less than significant under CEQA.

For species for which standard, established mitigation guidance exists (e.g., established by CDFW, USFWS, or NMFS), developed mitigation measures would follow these standards or provide a similar level of protection. These measures could include implementing no-disturbance buffers, limited operating periods for construction and operations, implementing alternative fiber optic line installation methods such as directional drilling, stringing fiber optic line on bridges or power lines, or installing fiber optic line underneath pavement, or compensatory habitat creation, enhancement, or restoration. In the absence of previously established guidance or standards, mitigation would be developed in consultation with the appropriate agencies with jurisdiction over the affected species (e.g., CDFW, USFWS, NMFS).

Mitigation Measure 3.4-1e: Avoid Nesting Birds

Where possible, vegetation removal and project activities will occur outside of the active nesting bird season as determined by the qualified biologist. However, if work during the nesting season is unavoidable, proponents of individual fiber projects will retain a qualified biologist to conduct surveys for nesting birds within and adjacent to the project area. The area for surveys will be determined by the qualified biologist based on the potential species in the area and presence of suitable habitat. Surveys should be timed no more than 1 week prior to vegetation removal or project activities that could disturb nesting birds. If active nests are detected, the project proponent will establish a temporary buffer around the nest that is sufficient to ensure that breeding is not likely to be disrupted or adversely affected by construction activities, as determined by a qualified biologist. Factors to be considered for determining buffer size will include the following: presence of natural buffers provided by vegetation or topography, nest height, locations of foraging territory, baseline levels of noise and human activity, species sensitivity, and expected treatment activities. Buffers will be maintained until a qualified biologist determines the young have fledged or the nest is no longer active.

Significance after Mitigation

Implementation of Mitigation Measures 3.4-1a through 3.4-1e would reduce significant impacts on special-status species to a **less-than-significant** level because they would require identification and avoidance of special-status species and their habitat, or reduce direct and indirect impacts to a negligible level through additional project-specific mitigation measures, or provide compensation for loss of special-status species or their habitat through enhancement of existing populations, creation and management of off-site populations, conservation easements, or other appropriate measures.

Impact 3.4-2: Result in Destruction or Adverse Modification of Areas Designated by USFWS as Critical Habitat for Sierra-Nevada Yellow-legged Frog and California Red-legged Frog

Fiber optic line installation, including vegetation removal and ground disturbance, may result in the loss or degradation of USFWS designated critical habitat for Sierra Nevada yellow-legged frog and California red-legged frog, if critical habitat occurs within the program area. This would be a **potentially significant** impact.

Although fiber optic line installation activities are not likely to occur within critical habitat areas, the program area includes critical habitat designated by USFWS for Sierra Nevada yellow-legged frog and California red-legged frog. Construction activities within or adjacent to these areas may temporarily remove critical habitat or reduce the quality of these areas and habitat value to these species. Implementation of Mitigation Measure 3.4-1a will identify construction activities that are proposed within or adjacent to USFWS-designated critical habitat in the program area. For this reason, the impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-2: Avoid or Compensate for Loss of Critical Habitat for Sierra Nevada Yellow-Legged Frog and California Red-Legged Frog

Wherever feasible, fiber optic line installation will be designed to avoid construction activities within or adjacent to critical habitat as designated by USFWS. This could include switching installation methods from trenching or plowing to directional drilling or aerial stringing.

If avoidance is not feasible, informal consultation with USFWS will determine a mitigation strategy to ensure that construction activities do not result in the destruction and adverse modification of the value of the habitat or affect the survival and recovery of Sierra Nevada yellow-legged frog and California red-legged frog. Measures are likely to include seasonal restrictions, reduced construction corridors, pre-construction surveys, worker environmental education sessions, biological monitoring, and re-vegetation programs.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-2 would reduce impacts to Sierra Nevada yellow-legged frog and California red-legged frog critical habitat to a **less-than-significant** level because the proponents of individual fiber projects would be required to avoid or compensate for loss or degradation of critical habitat.

Impact 3.4-3: Result in Loss or Degradation of Riparian Habitat and Other Sensitive Natural Communities

Fiber optic line installation, including vegetation removal and ground disturbance, may result in the loss or degradation of riparian habitat or other sensitive natural communities, if they occur within the program area. This would be a **potentially significant** impact.

Riparian habitat is known to occur along existing roadways throughout Nevada County. In addition, 61 other sensitive natural communities also have the potential to occur in Nevada County within the program area. Vegetation removal or ground disturbance, including trenching and plowing, in these areas may result in loss or degradation of these sensitive habitats. However, loss or degradation of riparian and other sensitive habitats is expected to be minimal because fiber optic line installation would be restricted to existing disturbed areas that contain minimal natural habitats.

Nonetheless, riparian habitats generally support rich avian and mammalian communities, provide important resting, feeding, and breeding habitat for neotropical migrant birds (i.e., bird species that breed in North America during summer then migrate to Central or South America in winter), and contribute disproportionately to species diversity at the landscape level. Riparian habitats also provide valuable movement corridors for a variety of wildlife species. Riparian habitats and sensitive natural communities are limited throughout the region and state and have suffered widespread and ongoing declines such that even relatively small losses of these habitat types can have a significant effect on local wildlife populations or reduce the ecological function of these habitats. For this reason, the impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-3a: Implement Mitigation Measure 3.4-1a

Mitigation Measure 3.4-3b: Obtain All Required Regulatory Authorizations if Project-Specific Fiber Optic Line Installation Would Result in Impacts to Riparian Habitats within CDFW Jurisdiction

If it is determined that project-specific fiber optic line installation could affect the bed, bank, channel, or associated riparian habitat subject to CDFW jurisdiction under Fish and Game Code Section 1602, a Streambed Alteration Notification shall be submitted to CDFW, pursuant to Section 1600 et seq. of the California Fish and Game Code. If proposed activities are determined to be subject to CDFW jurisdiction, the proponents of individual fiber projects shall abide by the conditions of any executed Lake and Streambed Alteration Agreement.

Mitigation Measure 3.4-3c: Prevent Spread of Invasive Plants and Noxious Weeds

Proponents of individual fiber projects will take the following actions to prevent the spread of invasive plants and noxious weeds:

- identify and map significant infestations of invasive plant species (i.e., those rated as invasive by Cal-IPC or designated as noxious weeds by California Department of Food and Agriculture) during reconnaissance-level surveys.

- clear clothing, footwear, and equipment used during fiber optic line installation of soil, seeds, vegetative matter or other debris or seed-bearing material before entering the project area or when leaving an area with infestations of invasive plants and noxious weeds;
- for all heavy equipment and vehicles traveling off road, pressure wash, if feasible, or otherwise appropriately decontaminate equipment at a designated weed-cleaning station prior to entering the project area from an area with infestations of invasive plants and noxious weeds;
- inspect all heavy equipment, vehicles, tools, or other treatment-related materials for mud or other signs that weed seeds or propagules could be present prior to use in the project area; and
- stage equipment in areas free of invasive plant infestations.

Significance after Mitigation

Implementation of Mitigation Measures 3.4-3a through 3.4-3c would reduce impacts to riparian vegetation and other sensitive natural communities to a **less-than-significant** level because it would require identification and avoidance of riparian vegetation and sensitive natural communities and management practices to prevent spread of invasive plants into these habitat types.

Impact 3.4-4: Degradation of State or Federally Protected Wetlands and Waters of the United States or Waters of the State

Construction activities would avoid direct impacts to wetlands and sensitive aquatic resources, but fiber optic line installation activities would occur adjacent to or underneath (in the case of directional drilling) aquatic resources. Aquatic resources could be indirectly affected by erosion and sedimentation, or by the accidental introduction of oil, fuel, or other pollutants from construction equipment and materials, or by "frac-out" (i.e., the escape of drilling materials or sediment into the environment). This would be a **potentially significant** impact.

Stream crossing origination and completion points for direction drilling would be a minimum of 100 feet from the edge of a waterway or at a distance approved by the appropriate regulatory agency unless a Management Plan is prepared pursuant to Nevada County Code Sections L-II 4.3.4.C and L-II 4.3.17, which includes specifications for the preparation of Management Plans and compliance with applicable requirements of the US Fish and Wildlife Service, US Army Corps of Engineers, and California Department of Fish and Wildlife. This would ensure that direct impacts on aquatic resources are avoided.

Indirect impacts on aquatic resources could occur through increased erosion or sedimentation, particularly if aquatic resources occur downslope of fiber optic line installation activities or if construction activities temporarily expose soil surfaces or stockpiled soil to wind and water erosion that causes sedimentation to impact water quality in downstream areas. Hazardous materials associated with fiber optic line installation would be limited to those associated with construction equipment, such as gasoline and diesel fuels, engine oil and hydraulic fluids, and drilling mud.

Implementation of Best Management Practices (BMPs) prepared for the Storm Water Pollution Prevention Plan (SWPPP) for individual fiber projects and implementation of Mitigation Measure 3.8-1 "Implement drilling fluid seepage and spill prevention measures", outlined in Section 3.8, "Hydrology and Water Quality," would minimize the potential for fiber optic line installation activities to degrade water quality in aquatic resources within the program area, or adversely impact special-status fish species. For this reason, the impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-4a: Implement Mitigation Measure 3.8-1.

Mitigation Measure 3.4-4b: Avoid Effects on Aquatic Habitat, Including Wetlands and Waters of the State and the United States

- Ground disturbing (trenching, plowing, or grading) work within 20 feet of jurisdictional waters of the State or of the United States, and all directional drilling activities under waterways shall be monitored full-time by a County-approved biologist to assure that there is no surface disturbance to jurisdictional waters or impacts to downstream water quality, and to ensure drilling is immediately stopped and the drilling fluid seepage and spill prevention measures are implemented, in the case of a frac-out. CDFW or the Central Valley RWQCB may establish additional conditions to protect waters of the State and water quality, as described in any Lake and Streambed Alteration Agreement, Water Quality Certification, or waste discharge requirements issued for the project.
- All vehicles and equipment shall be maintained in proper working condition to minimize the potential for
- fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials.
- Hazardous spills shall be cleaned up immediately and the contaminated soil properly disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated area. Service/maintenance vehicles shall carry a bucket and pads to absorb leaks or spills.
- Because fuels, lubricants, and solvents may be stored in staging areas, all staging areas shall be located at least 150 feet away from lakes, streams, drainages, and wetlands.

Significance after Mitigation

Implementation of Mitigation Measures 3.4-4a and 3.4-4b would reduce indirect impacts to wetlands and waters of the United States and state to a **less-than-significant** level by requiring avoidance and minimization of impacts, including due to frac-out.

Impact 3.4-5: Interfere Substantially with Wildlife Movement Corridors or Impede Use of Nurseries

The program area is within identified ECAs or Natural Landscape Blocks. Fiber optic line installation could occur in areas used as wildlife movement corridors or nursery sites (e.g., bat maternity roosts, deer fawning areas, heron or egret rookeries). Installation related noise and disturbance could lead to temporary changes in migration or movement patterns. Fiber optic line would be buried or would be installed through aerial stringing and therefore would not create barriers to wildlife long-term. Temporary shifts in wildlife movements to avoid or navigate around fiber optic line installation and associated disturbances would not substantially interfere with movement requirements or migration patterns; and program implementation would not create permanent barriers to local or landscape-level movements. This would be a **less-than-significant** impact. Installation of fiber optic line through waterways would be accomplished through directional drilling and would avoid direct impacts to aquatic habitat. However, a frac-out could temporarily affect aquatic movement corridors. Installation-related noise and disturbance, and construction activities such as tree and vegetation removal could result in loss or temporary disturbance of wildlife nursery sites if these occur adjacent to roadways. This would be a **potentially significant** impact.

Fiber optic line installation could occur within areas used by wildlife for movement corridors or nurseries. Noise or visual disturbance due to the presence of equipment or work crews could cause resident or migratory wildlife to temporarily avoid or move out of the areas immediately surrounding fiber optic line installation areas. These disturbances could temporarily disrupt the movement patterns of some wildlife species that may use natural lands adjacent to roadways for regular movements locally or for seasonal migrations. Additionally, access or use of any wildlife nursery sites (e.g., bird nesting colonies, bat maternity roosts, fawning areas) present adjacent to fiber optic line installation areas could be disturbed or impeded temporarily by construction activities.

Construction activities would occur within or adjacent to roadways and would be short duration (10 to 20 days depending on construction method) and likely similar to existing disturbance levels within roadways. Wildlife (e.g., mule deer) near roadways is likely accustomed to human presence and motorized vehicles; therefore, any temporary incremental increases in noise and human disturbances from construction activities in these areas are unlikely to disrupt current movement patterns substantially above existing levels.

Directional drilling would be used for fiber optic line installation under waterways and would therefore avoid direct impacts to aquatic movement corridors. Inadvertent return of drilling lubricant (or a frac-out) could occur during direction drilling under waterways. Mitigation Measure 3.8-1 would require the implementation of drill fluid seepage and spill prevention measures.

This analysis considers impacts on nurseries of native species that do not meet the definition of special-status species. Construction activities, such as tree or vegetation removal, could modify, degrade, or remove important habitat features of a nursery site. Examples of important habitat requirements for nursery sites that could be affected include large trees for heron and egret rookeries, hollow trees or bridge structures for bat maternity roosts, and meadow and riparian areas that provide hiding cover and forage for mule deer fawning. Some wildlife populations return to the same nursery site every year (e.g., some bats, egrets) and degradation or loss of important habitat features at these locations could impede the use of the nursery site for multiple breeding seasons. For this reason, the impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-5a: Retain Nursery Habitat and Implement Buffers to Avoid Nursery Sites

Proponents of individual fiber projects will implement the following measures while working in the project area for individual fiber projects that contain nursery sites identified in surveys conducted pursuant to Mitigation Measure 3.4-1a:

- **Retain Known Nursery Sites.** A qualified biologist will identify the important habitat features of the wildlife nursery and, prior to construction activities, will mark these features for avoidance and retention during fiber optic line installation.
- **Establish Avoidance Buffers**. The proponent will establish a non-disturbance buffer around the nursery site if activities are required while the nursery site is active/occupied. The appropriate size and shape of the buffer will be determined by a qualified biologist, based on potential effects of project-related habitat disturbance, noise, visual disturbance, the potentially affected species, and other factors. No construction activity will commence within the buffer area until a qualified biologist confirms that the nursery site is no longer active/occupied. Monitoring of the nursery site by a qualified biological monitor during and after construction activities will be required if a qualified biologist determines that proposed activities could disrupt use of active nursery sites. If construction activities cause agitated behavior of the individual(s), the buffer distance will be increased, or construction activities modified until the agitated behavior stops.

Mitigation Measure 3.4-5b: Implement Mitigation Measure 3.8-1.

Significance after Mitigation

Implementation of Mitigation Measures 3.4-5a and 3.4-5b would reduce potentially significant impacts to wildlife nursery sites because it would avoid removal of important habitat features and avoid or minimize disturbance from noise and human presence. This would retain the value and function of the nursery site such that its use by native wildlife would not be substantially impeded, thereby reducing this impact to a **less-than-significant** level.

Impact 3.4-6: Potential Conflict with Local Policies or Ordinances

Fiber optic line installation could conflict with local policies or ordinances protecting biological resources, such as local tree preservation policies, standards, and ordinances. Following the restrictions and mitigations required in Chapter 12.36 of the City of Grass Valley code, Chapter 18.01 of the Nevada City code, and Section 18.30.155 of the Town of Truckee code would avoid significant impacts related to tree removal. Tree removal associated with the program within Nevada County could conflict with Section L-II 4.3.15, Tree Resource Protection Standards, in Title 3 of the County Land Use and Development Code. This would be a **potentially significant** impact.

The Grass Valley and Nevada City Tree Ordinances (See Section 3.4.1, "Regulatory Setting") regulate the removal of protected trees. The Town of Truckee Tree Preservation ordinance provides protection for trees, while exempting certain activities from the tree permitting process.

While some trees, including oak trees, could be removed during installation of fiber optic line, the scope of removals cannot be anticipated based on the programmatic level of analysis of this Draft EIR. Nevertheless, because proponents of individual fiber projects requiring discretionary entitlements would be required to abide by the restrictions in and implement mitigation based on Section 18.30.155 of the Town of Truckee code, and Chapters 12.36 and 18.01 of the City Ordinances of Grass Valley and Nevada City, respectively. Installation of fiber optic line is not expected to conflict with these ordinances.

If tree removal is required during installation of fiber optic line, and landmark trees, landmark groves, or heritage trees or groves occur in the tree removal area, removal of these trees would conflict with Sec. L-II 4.3.15, Tree Resource Protection Standards in Title 3 of the County Land Use and Development Code. For this reason, the impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.4-6: Prepare a Biological Inventory and Avoid or Compensate for Loss of Landmark or Heritage Trees or Groves

If an individual fiber project requires tree removal, a qualified arborist will prepare a Biological Inventory that details the species and DBH of all trees subject to possible tree removal and will identify any landmark and heritage trees and groves. If landmark and heritage trees or groves are identified and can be avoided, no further mitigation is required.

Prior to approval of a site plan, grading plan, or any permit authorizing construction, the project proponent shall prepare a Management Plan as required under the Nevada County Tree Resource Protection Standards. The Management Plan shall specify measures to mitigate for the loss of defined trees and groves to ensure no net loss of oak or hardwood habitat, and emphasis will be placed on protection of blue oaks (*Quercus douglasii*) and valley oaks (*Quercus lobata*). Measures could include preservation of on-site oak woodlands in a conservation easement, purchase and preservation of off-site oak woodlands, on- or off-site enhancement of degraded oak woodlands, or by paying in-lieu fees into a County-approved fund used to purchase and preserve comparable oak woodland or hardwood communities in the region. The Management Plan shall also include measures to protect trees during construction and following fiber optic line installation. Measures could include specifications for protective fencing and construction buffers, or fiber optic line installation method changes. The plan shall identify financial responsibility and funding sources for all measures.

Significance after Mitigation

Implementation of Mitigation Measure 3.4-6 would reduce potentially significant impacts to trees because it would determine if landmark or heritage trees or groves are present and avoid removal of these defined trees or groves or provide compensatory mitigation that achieves a no-net loss standard if they are present and removal could not be avoided, thereby reducing this impact to a **less-than-significant** level.

CUMULATIVE IMPACTS

The geographic scope considered for the purposes of assessing cumulative impacts of direct and indirect effects on biological resources is Nevada County, including areas excluded from this program area, such as federal lands. Cumulative impacts are also considered in the context of the Sacramento Valley, Sierra Nevada foothills and mountains, and the eastern Sierras, to include consideration of certain species' life history and extent of current habitat, as well as adjacent migration and movement corridors (e.g., natural habitat areas surrounding the program area, the Pacific flyway for migratory birds) that are connected to the program area. There would be other linear, underground projects that could occur in the program area that have similar related construction impacts. In addition, other past, present, and future development, utility, recreation, and vegetation and fuels management projects, including those listed in Table 3.1-2, have and likely would continue to result in significant cumulative impacts on special-status plants, special-status wildlife, sensitive natural communities, riparian habitat, state and federally protected wetlands, wildlife movement corridors, and native wildlife nurseries. Development projects require compensatory actions for adverse effects, recreation projects are generally designed to minimize impacts in high-quality habitats, and fuels reduction projects' objective to reduce the risk of catastrophic wildlife can be beneficial to some species and biological resources.

Because program area is generally located where natural habitats are limited, the existing level of human activity is already high, and individual fiber projects associated with the Nevada County Broadband Program would result in only temporary effects, the program's contributions to cumulative biological resources impacts are expected to be minimal. In addition, implementation of Mitigation Measures 3.4-1a through 3.4-1e, 3.4-2, 3.4-3a through 3.4-3c, 3.4-4a, 3.4-4b, 3.4-5a, 3.4-5b, and 3.4-6 would reduce impacts on special-status plants, special-status wildlife, sensitive natural communities, riparian habitat, state or federally protected wetlands and waters, wildlife movement corridors, and native wildlife nurseries. Therefore, the proposed program would have a less than **cumulatively considerable impact** related to biological resources.

3.5 GEOLOGY, SOILS, AND MINERAL RESOURCES

This section describes current conditions relative to geology, soils, and mineral resources in the program area. It includes a description of soils and mineral resources, analysis of environmental impacts, and recommendations for mitigation measures for any significant or potentially significant impacts. No issues were raised during scoping that pertain to geology, soils, or mineral resources. Because no septic tanks or alternative wastewater disposal systems are proposed as part of the program, impacts related to the ability of soils to adequately support these systems is dismissed from further discussion.

3.5.1 Regulatory Setting

FEDERAL

National Earthquake Hazards Reduction Act

In October 1977, the US Congress passed the Earthquake Hazards Reduction Act to reduce the risks to life and property from future earthquakes in the United States. To accomplish this, the act established the National Earthquake Hazards Reduction Program (NEHRP). The mission of NEHRP includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improved building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improved mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency as the lead agency of the program and assigns several planning, coordinating, and reporting responsibilities.

STATE

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (Public Resources Code [PRC] Section 2621-2630) intends to reduce the risk to life and property from surface fault rupture during earthquakes by regulating construction in active fault corridors, and by prohibiting the location of most types of structures intended for human occupancy across the traces of active faults. The act defines criteria for identifying active faults, provides legal definitions of terms such as active and inactive, and establishes a process for reviewing building proposals in earthquake fault zones. Under the Alquist-Priolo Act, faults are zoned and construction along or across these zones is strictly regulated if they are "sufficiently active" and "well-defined." A fault is considered sufficiently active if one or more of its segments or strands shows evidence of surface displacement during Holocene time (defined for purposes of the act as within the last 11,000 years). A fault is considered well defined if its trace can be clearly identified by a trained geologist at the ground surface or in the shallow subsurface, using standard professional techniques, criteria, and judgment (Bryant and Hart 2007). Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, cities and counties must require a geologic investigation to demonstrate that buildings would not be constructed across active faults. The law addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards.

National Pollutant Discharge Elimination System Construction General Permit for Stormwater Discharges Associated with Construction Activity

The State Water Board adopted the statewide National Pollutant Discharge Elimination System General Permit in August 1999. The state requires that projects disturbing more than one acre of land during construction file a Notice of Intent with the regional water quality control board (RWQCB) to be covered under this permit. Construction activities subject to the General Permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non stormwater discharges to storm sewer systems and other waters. A stormwater pollution prevention plan (SWPPP) must be developed and implemented for each site covered by the permit. The SWPPP must

include best management practices (BMPs) designed to prevent construction pollutants from contacting stormwater and keep products of erosion from moving off-site into receiving waters throughout the construction and life of the program; the BMPs must address source control and, if necessary, pollutant control.

Seismic Hazards Mapping Act

The intention of the Seismic Hazards Mapping Act of 1990 (PRC Section 2690–2699.6) is to reduce damage resulting from earthquakes. While the Alquist-Priolo Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including ground shaking, liquefaction, and seismically induced landslides. The act's provisions are similar in concept to those of the Alquist-Priolo Act: The state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones. Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development.

California Building Code

The California Building Code (CBC) (California Code of Regulations, Title 24) is based on the International Building Code. The CBC has been modified from the International Building Code for California conditions, with more detailed and/or more stringent regulations. Specific minimum seismic safety and structural design requirements are set forth in Chapter 16 of the CBC. The CBC identifies seismic factors that must be considered in structural design. Chapter 18 of the CBC regulates the excavation of foundations and retaining walls, while Chapter 18A regulates construction on unstable soils, such as expansive soils and areas subject to liquefaction. Appendix J of the CBC regulates grading activities, including drainage and erosion control. The CBC contains a provision that provides for a preliminary soil report to be prepared to identify "…the presence of critically expansive soils or other soil problems which, if not corrected, would lead to structural defects." (CBC Chapter 18 Section 1803.1.1.1).

LOCAL

Nevada County General Plan

The General Plan Soils Element (Nevada County 1995 [amended in 2008, 2010, 2014]) includes several goals, objectives, and policies that address geologic hazards and soils. The relevant goals, objectives, and policies are listed below.

GOAL GH-10.2 Minimize injury and property damage due to geologic and seismic hazards.

- **Policy GH-10.2.1** Ensure that new construction meets current structural and safety standards.
- **Policy GH-10.2.2** Continue to cooperate with the California Department of Conservation—California Geological Survey, the State Office of Emergency Services, and other appropriate federal, state, and local agencies—and incorporate the most current data concerning the following as the basis for the County's Site Development Standards, and project site plan review: (a) geologic hazards; and (b) seismic hazard data for sensitive land uses such as schools, medical facilities, high-density residential uses, and intensive commercial uses. The project review shall consider the need to mitigate development in such areas in accordance with federal, state, and local standards. As part of the project site review process, require sufficient soils and geologic investigations to identify and evaluate the various geologic and seismic hazards that may exist for all development, including subdivisions. Such investigations shall be required within an area determined to be seismically active by DOC (i.e., California Geological Survey), or within an area having potential geologic hazards, including slope instability and excessive erosion.

GOAL 12.1 Minimize adverse impacts of grading activities, loss of soils and soil productivity.

Objective 12.1 Minimize earth movement and disturbance.

- **Policy 12.1** Enforce Grading Ordinance provisions for erosion control on all new development projects by adopting provisions for ongoing monitoring of project grading. Project site inspection shall be required prior to initial site disturbance and grading to ensure all necessary control measures, including proper staking and tree protection measures, are in place. The installation, maintenance, and performance of erosion and sedimentation

control measures shall be monitored by County or District staff (or their designee) and completely funded by a project applicant. All County projects shall comply with this policy.

- **Policy 12.3** Cooperate and encourage those activities dealing with techniques and practices to minimize erosion in cooperation with Nevada County Resource Conservation District, including provision of educational materials for the general public regarding techniques and practices to minimize erosion from construction activities.

Objective 12.2 Minimize erosion due to road construction and maintenance.

- **Policy 12.4** Require erosion control measures as an element of all County contracts, discretionary projects, and ministerial projects.
- **Policy 12.5** Encourage the efforts of the Resource Conservation District and other related agencies to educate and assist the general public about techniques and practices to minimize private road maintenance related erosion.

GOAL 17.1 Recognize and protect valuable mineral resources for current and future generations in a manner that does not create land use conflicts.

Objective 17.1 Protect valuable mineral deposits from intrusion by incompatible land uses that will impede or preclude mineral extraction or processing. Promote the proper management of all mineral resource activities in the county and minimize the impact of extraction and processing on neighboring activities and the environment in general.

Land Use and Development Code

Nevada County Grading Code Section L-V 13.14, "Erosion Control," requires projects to be designed with long-term erosion and sediment control as a primary consideration. Any project requiring a grading permit is required to produce an erosion and sediment control plan.

City of Grass Valley General Plan

The City of Grass Valley 2020 General Plan (City of Grass Valley 1999) includes several goals, objectives, and policies that address geologic hazards and soils. The relevant goals, objectives, and policies are listed below.

Conservation/Open Space Element

GOAL 1-COSG Provide a balance between development and the natural environment, protecting and properly utilizing Grass Valley's sensitive environmental areas/features, natural resources, and open space lands.

- **Policy 1-COSP** Continue to identify mineral resources and to develop policies addressing their protection from competing land uses, minimizing impacts on mining activities, in compliance with state law.

Safety Element

GOAL 1-SG Reduce the potential risk of death, injury, property damage, and economic and social dislocation resulting from hazards.

Objective 1-SO Assurance of a high level of protection from geologic and seismic hazards for all residents, structures, and vital services.

Objective 2-SO Reduction of risk from exposure to hazards related to past and present mining, including shafts, tunnels, tailings, and toxic materials.

- **Policy 1-SP** Adopt current uniform codes for new construction.
- **Policy 2-SP** Ensure seismic safety and structural integrity in housing and commercial/industrial facilities through code enforcement.
- **Policy 4-SP** Based on location or probable need, require development plans in mined areas to include in-depth assessments of potential safety, including mining-related excavations, and health hazards and accompanying mitigation measures

Code of Ordinances

Section 12.06.120 of the City of Grass Valley Code requires the prevention, control, and reduction of stormwater pollutants. Any construction contractor performing work in the city shall implement appropriate BMPs to prevent the discharge of construction wastes or contaminants from construction materials, tools, and equipment from entering the storm drain system or watercourses. All construction plans and applications for building permits and grading permits shall consider the potential for erosion and sedimentation at the construction site and shall include appropriate erosion and sedimentation controls. Appropriate controls shall be determined in accordance with the guidance provided in the California Stormwater Quality Association (CASQA) Stormwater Best Management Practice Handbook and City improvement standards and may include site planning considerations, construction staging and timing, and installation of temporary detention ponds or other treatment facilities. If required, a stormwater management plan and maintenance agreement shall be prepared and submitted for approval and acceptance.

Nevada City General Plan

The City's General Plan Public Safety Element includes a relevant objective and policy related to seismic hazards, and geotechnical hazards, geology, and soils (Nevada City 1986 [amended in 2008, 2009, 2014]), as follows.

Seismic and Geotechnical Hazard Objective: Ensure a high level of safety from earthquake, landslide, severe erosion, and other geotechnical hazards

- **Policy:** Require detailed soils and geologic studies prior to approval for development in potentially hazardous areas. Require mitigation measures if significant hazards are identified.

Municipal Code

Chapter 17.80.100 discusses grading and erosion control measures in addition to the those in the California Building Code and requires that a grading plan be approved by the building department in certain circumstances, the City engineer shall also have authority to approve grading plans. All grading is limited the dry season of the year, between May 1 and October 15, unless written permission is given. During the wet season (October 16 through April 30, or as amended by the City), all grading is required to include temporary or permanent erosion control measures, as necessary to prevent soil erosion from the site. Erosion control shall include any and/or all effective methods generally accepted as normal practice, such as fertilization and seeding, straw mulch, jute netting, earthen berms, straw barricades, plastic sheeting, holding basins, and flow dissipators. Lastly, this chapter provides that the City has the authority to review all temporary and permanent erosion control measures, and may require additional measures.

Town of Truckee General Plan

The Town of Truckee General Plan (Town of Truckee 2006) includes relevant objectives and policies related to mineral resources, erosion, seismic hazards, and geotechnical hazards, as follows.

Conservation and Open Space Element

GOAL COS-6 Protect economically viable mineral resources and related industries in Truckee while avoiding land use conflicts and environmental impacts from mining activities.

- **Policy P6.2** Restrict permitted uses on lands mapped as important Mineral Resource Areas within the RC/OS land use designation to those compatible with mineral resource extraction activities.
- **Policy P6.3** Restrict permitted uses on lands containing important mineral resources within the PUB land use designation to those compatible with mineral extraction, except in cases where such uses offer public benefits that outweigh those of resource extraction.

GOAL COS-12 Protect the Town's soil resources from erosion.

- **Policy P12.2** Require projects that require earthwork and grading, including cuts and fills for roads, to incorporate measures to minimize erosion and sedimentation. Typical measures include project design that conforms with natural contours and site topography, maximizing retention of natural vegetation, and implementing erosion control BMPs.

Safety Element

GOAL SAF-1 Reduce the risk of injury, loss of life and property damage from earthquakes, landslides, and other geologic hazards.

- Policy P1.3 Require soils reports for new development in areas where geologic risks are known to exist. Such reports should include recommendations for appropriate engineering and other measures to address identified risks.

Municipal Code

Chapter 11.04, "Requirements for Construction, Development, and Redevelopment Activities" and Section 11.04.010, "Construction Activities," requires any person performing construction work within the Town disturbing soil or rock to demonstrate compliance with the Town of Truckee Development Code and implement appropriate BMPs to prevent the discharge from the site of soil, construction wastes, or debris, including contaminants from construction materials, tools, and equipment to the stormwater drainage system or Waters of the State. Such terms, conditions, and requirements may include, but are not limited to, requirements consistent with California Stormwater Quality Association's Construction, New and Redevelopment, and Industrial/Commercial Best Management Practice Manuals, and requirements for erosion and sediment controls, soil stabilization, dewatering, source controls, pollution prevention measures and illicit discharges.

3.5.2 Environmental Setting

REGIONAL GEOLOGY

Nevada County is located on the west side of the Mesozoic age Sierra Nevada Mountain Range, an approximately 400 miles long and 80 miles wide geomorphic province. Nevada County extends from the foothills of the Sierra Nevada at an elevation of approximately 400 feet above mean sea level (AMSL) in the west to the crest at an elevation of approximately 8,400 feet AMSL toward the eastern portion of the county. The Sierra Nevada has been uplifted to form a steep escarpment to the basin and range geomorphic province on its eastern side and a gentler slope that extends under the sediment of the great valley geomorphic province to the west.

The Sierra Nevada Mountain Range is seismically active and influenced heavily by uplift and faulting. There are several fault systems in the foothills on the western side of the range and an active Sierra Nevada frontal fault zone on the eastern side. The Foothill Fault System is a broad zone of northwest-trending east dipping normal faults formed along the margin of the Great Valley and the Sierra Nevada geologic provinces on the western flank of the Sierra Nevada. The active Sierra Nevada frontal fault zone is also northwest trending east dipping normal faults and forms the eastern escarpment of the Sierra Nevada (Le et al. 2007).

LOCAL GEOLOGY

The western portion of the county is composed of Cenozoic volcanic rocks and Mesozoic granitic formations and then transitions to Paleozoic marine metasedimentary and Cenozoic volcanic formations in the central portion of the county near Grass Valley and Nevada City (Nevada County 1991). The eastern portion of the county consists of steep Mesozoic Jura-Trias metavolcanic and Mesozoic granitic formations (Figure 3.5-1).

Nevada County is geologically complex and seismically active. Pre-quaternary, relatively inactive faults, are located in the western half of the county (Nevada County 1991). Active Quaternary and historic faults are located in the eastern portion of the county (Nevada County 1991).

TOPOGRAPHY AND DRAINAGE

Most of Nevada County slopes toward the Sacramento Valley in the west with an increase in elevation of approximately 8,000 feet from west to the crest of the Sierra Nevada toward the east. The westernmost portion of the county, east of the crest of the Sierra Nevada, slopes toward the east. There are three major drainage areas in the county—the Yuba River watershed, the Bear River watershed, and the Truckee River watershed. The south fork and middle fork of the Yuba River constitute the largest drainage areas in the county.

SOILS

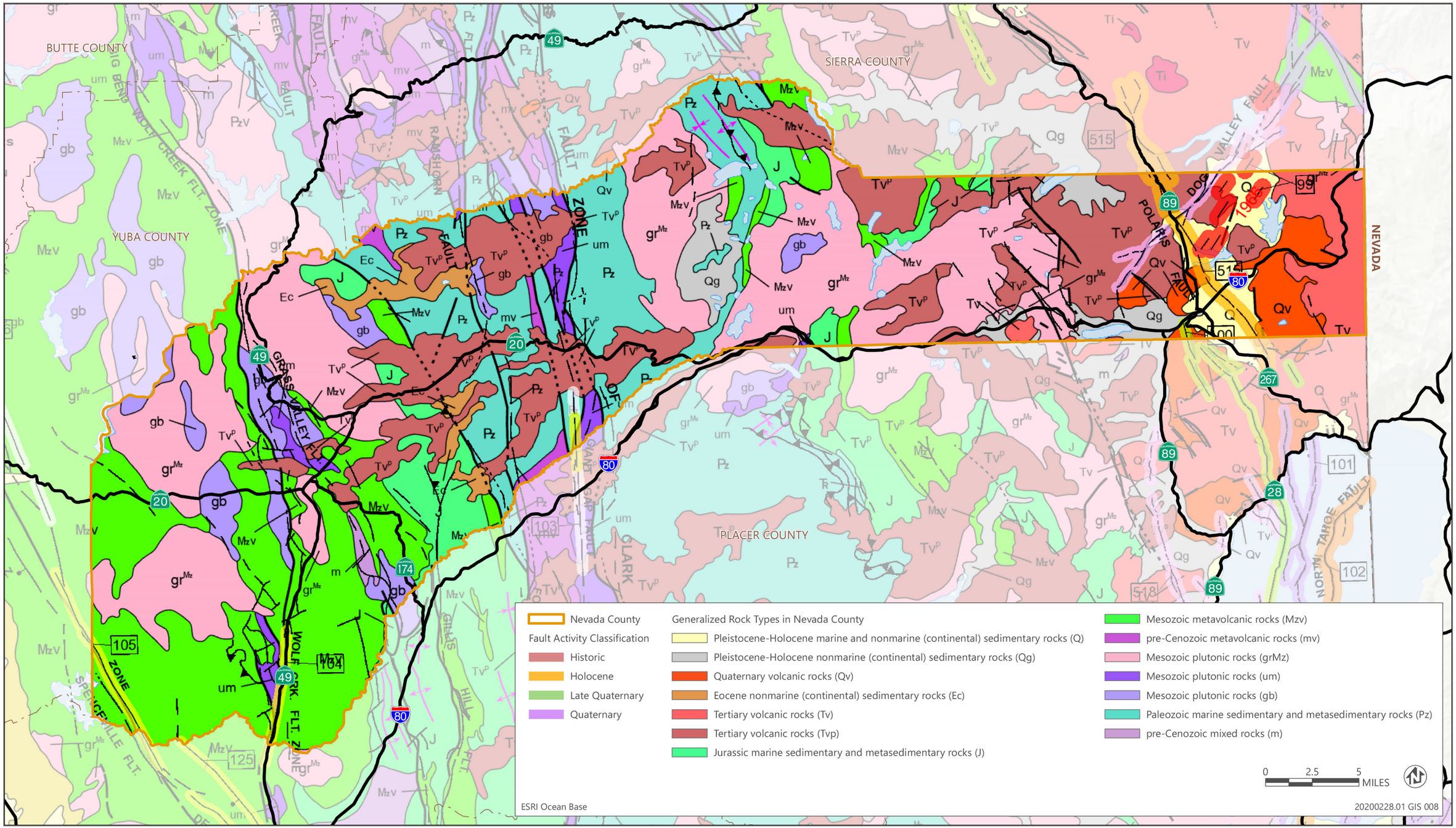
Soil surveys for Nevada County conducted by the US Department of Agriculture, Soil Conservation Service and the Tahoe National Forest have identified general soil types found in the county (Nevada County 1991). Of the 304 soil types in the county, 262 are within the program area. Table 3.5-1 includes the predominant soil types (i.e., those that include at least 100,000 linear feet of the soil type) in the program area.

Linear extensibility can be used to infer the shrink-swell potential of a soil. Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change. There are several major soil series in the program area with a high shrink-swell potential (i.e., Auburn, Boomer, Chaix, Cohasset, Horseshoe, Josephine, Rescue, Secca, Sobrante, and Trabuco).

Erosion hazard is variable across the county, but generally increases near major rivers, in areas with steeper slopes, and near more intensive development (Nevada County 1991). The erosivity index ranges from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water. In general, the major soils in the program area have a lower erosive potential.

SUBSIDENCE

Land subsidence is the gradual settling or sinking of an area with very little horizontal motion. Subsidence can be induced by both natural and human phenomena. Natural phenomena include shifting of tectonic plates and dissolution of limestone resulting in sinkholes. Subsidence related to human activity includes pumping water, oil, and gas from underground reservoirs; collapse of underground mines; drainage of wetlands; and soil compaction. The primary cause of subsidence in the City of Grass Valley and Nevada City areas is previous underground withdrawal of material from mining activities (Nevada County 1991). In addition to mines, Nevada County is at risk to subsidence from karst, which are topographic features (surficial and/or subterranean) formed by the dissolution of limestone (Nevada County 1995). For example, in January of 2017, a sinkhole that presented was seven stories deep and 80 feet in diameter when it first formed and occurred when a 7.5 foot-diameter underground culvert for Little Wolf Creek failed (Nevada County 1995).



Source: Data accessed from the California Department of Conservation through ArcGIS Online in 2022.

Figure 3.5-1 Geology of Nevada County

Table 3.5-1 Summary of Soil Characteristics

Main Soil Group	Texture	Shrink-Swell Potential	Erosive Potential	Linear Feet in Program Area
Ahwahnee	Coarse loamy	1.5	0.2	158,553
Aiken	Loam	1.5-2.0	0.10-0.28	666,248
Alluvial land	—	—	—	209,863
Auburn	Loam	2.2-4.5	0.24-0.37	420,757
Boomer	Fine Loamy	1.7-4.5	0.24-0.37	926,929
Chaix	Coarse Loamy	1.5-4.5	0.15-0.24	273,749
Cohasset	Fine Loamy	1.5-4.5	0.15	547,648
Crozier	Fine Loamy	1.5	0.10	179,225
Fugawee	Fine Loamy	1.5-2.0	0.05	425,468
Hoda	Fine, kaolinitic	1.5	0.24	487,925
Horseshoe	Fine Loamy	4.5	0.15	124,474
Hurlbut	Fine Loamy	1.5-2.5	0.17	220,591
Josephine	Fine Loamy	4.5	0.15-0.24	766,268
Kyburz	Fine Loamy	1.2-1.5	0.05	276,959
Mariposa	Fine Loamy	1.5	0.20	158,2998
Martis	Fine Loamy	1.5	0.20	188,606
McCarthy	Medial-skeletal	1.5	0.05-0.10	238,794
Musick	Fine Loamy	1.5	0.17	386,509
Placer Diggings	Fine Loamy	1.5	—	146,907
Putt	Loamy skeletal	1.5	0.05	140,611
Rescue	Fine Loamy	4.5	0.37	152,453
Rock Outcrop	Rock Outcrop	—	—	337,658
Secca	Fine, mixed	4.5	0.20	364,290
Sierra	Fine Loamy	1.1	0.20	193,182
Sierra	Rock Outcrop	1.5	0.24	108,058
Sites	Fine	1.5-1.9	0.10	1,126,337
Sobrante	Fine Loamy	4.5	0.32	446,199.91
Tallac	Loamy skeletal	1.5	0.10	159,210
Tinker	Loamy skeletal	1.5	0.10	170,874
Trabuco	Loam	4.5	0.37	275,494
Waca	Medial skeletal	1.2-1.5	0.05	227,841

Note: Skeletal = subsoil that has 3 percent or more gravel-sized fragments.

Source: NRCS 2022.

EXPANSIVE SOILS

Expansive soils (also known as shrink-swell soils) are soils that contain expansive clay minerals that can absorb significant amounts of water. The presence of these clay minerals makes the soil prone to large changes in volume in response to changes in water content. When an expansive soil becomes wet, water is absorbed and it increases in volume, and as the soil dries it contracts and decreases in volume. This repeated change in volume over time can

produce enough force and stress on buildings, underground utilities, and other structures to damage foundations, pipes, and walls. The quantity and type of expansive clay minerals affects the potential for the soil to expand or contract. The program area contains many soil series with a high potential for expansion. Table 3.5-1 lists these soil series, which include the Auburn, Boomer, Chaix, Cohasset, Horseshoe, Josephine, Rescue, Secca, Sobrante, and Trabuco series (NRCS 2022).

MASS WASTING AND LANDSLIDES

Mass wasting refers to the collective group of processes that characterize down slope movement of rock and unconsolidated sediment overlying bedrock. These processes include landslides, slumps, rockfalls, flows, and creeps. Many factors contribute to the potential for mass wasting, including geologic conditions as well as the drainage, slope, and vegetation of the site. No detailed landslide susceptibility study has been completed for landslide hazards in Nevada County (Town of Truckee 2006). Much of Nevada County is steeply sloping and susceptible to landslides. Most soils within the county are underlain by bedrock so there is a lack of depth of material that could result in massive ground failure (Nevada County 1991). Land adjacent to hydraulically mined areas could be subject to landslide activity (Nevada County 1991). Such areas include Malakoff Diggins, North Bloomfield area; Montezuma Hill, Nevada City; Chalk Bluff, You Bet/Red Dog area; North San Juan, and French Corral (Nevada County 1991). There are also steep slope areas in Truckee that may present a significant landslide hazard including some places along the Truckee River, the ridges and hillsides north and west of Downtown, the ridges north of Gateway and north and west of Donner Lake, and areas around Alder Hill.

SEISMICITY

Most earthquakes originate along fault lines. A fault is a fracture in the Earth's crust along which rocks on one side are displaced relative to those on the other side due to shear and compressive crustal stresses. Most faults are the result of repeated displacement that may have taken place suddenly and/or by slow creep (Bryant and Hart 2007). The state of California has a classification system that designates faults as either active, potentially active, or inactive, depending on how recently displacement has occurred along them. Faults that show evidence of movement within the last 11,000 years (the Holocene geologic period) are considered active, and faults that have moved between 11,000 and 1.6 million years ago (comprising the later Pleistocene geologic period) are considered potentially active.

According to the US Geological Service, Nevada County falls within five earthquake ground movement intensity zones. The western half of the county is in the lower intensity zones, the middle portion is in the moderate zone, and the eastern edge is in the high intensity zone. The western half of Nevada County is in the lowest Earthquake Shaking Potential category for California. It is likely that the region will be affected by future seismic activity and, with the exception of the far eastern edge of the county, the magnitude of the incident is not likely to be severe (Nevada County 2011). Western Nevada County does experience ground shaking from distant major to great earthquakes on faults to the west and east (Nevada County 1995). The Town of Truckee is the major community of Nevada County located in the high intensity zone. Faults located near Truckee include the Mohawk Valley Fault, the southern section of which lies approximately 20 miles northwest of Truckee in Sierra County, and the Dog Valley Fault, which extends in from Dog Valley (approximately 20 miles northeast of Truckee) southwest to near Donner Lake. Several small trace faults are also located within the Town limits. None of these faults are designated as Alquist-Priolo Special Study Zones, which identify fault areas considered to be of greatest risk in the state. A 1986 study by the California [sic] Bureau of Reclamation concluded that the Dog Valley Fault could result in a maximum credible earthquake of 6.75 and 7.0 magnitude respectively (Town of Truckee 2006). There has been recent seismic activity felt in Truckee, including a magnitude 6+ earthquake in 1966, a magnitude 3.6 earthquake in 1998, and a magnitude 4.5 earthquake, centered 6 miles south of Truckee, in June 2004 (Town of Truckee 2006). A list of named faults within the program area is provided in Table 3.5-2.

Seismic hazards resulting from earthquakes include surface fault rupture, ground shaking, and liquefaction. Each of these potential hazards is discussed below.

Surface Fault Rupture

Surface rupture is the surface expression of movement along a fault. Structures built over an active fault can be torn apart if the ground ruptures. The potential for surface rupture is based on the concepts of recency and recurrence. Surface rupture along faults is generally limited to a linear zone a few meters wide. The Alquist-Priolo Act (see the Regulatory Setting discussion above) was created to prohibit the location of structures designed for human occupancy across, or within 50 feet of, an active fault, thereby reducing the loss of life and property from an earthquake. The program area is not located within an Alquist-Priolo active fault zone (DOC 2022). There are active faults in the eastern portion of Nevada County that have the potential to result in surface rupture.

Table 3.5-2 Named Faults Within the Program Area

Fault Name	Distance from Fault to Project Site (Miles)	Age of Movement
Polaris Fault	Within program area	During last 11,700 years
Dog Valley Fault	Within program area	Quaternary with some sections within last 200 years
Melones Fault Zone	Within program area	Older than 1.6 million years
Ramshorn Fault	Within program area	Older than 1.6 million years
Giant Gap Fault	Within program area	During past 700,000 years
Gillis Hills Fault	Within program area	Older than 1.6 million years
Grass Valley Fault	Within program area	Older than 1.6 million years
Wolf Creek Fault Zone	Within program area	During past 700,000 years
Spenceville Fault	Within program area	During past 700,000 years
Foresthill Fault	Within program area	Older than 1.6 million years

Source: DOC 2022.

Ground Shaking

The intensity of seismic shaking, or strong ground motion, during an earthquake is dependent on the distance and direction from the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions of the surrounding area. Ground shaking could potentially result in the damage or collapse of buildings and other structures. The probable seismic ground shaking expected in the east side of the program area is anticipated to produce peak ground accelerations between 30 and 40 percent of the acceleration of gravity, which would produce significant ground shaking (Nevada County 2011).

Liquefaction and Lateral Spreading

Liquefaction is a phenomenon in which loose, saturated, granular soil deposits lose a significant portion of their shear strength because of excess pore water pressure buildup. An earthquake typically causes the increase in pore water pressure and subsequent liquefaction. These soils are behaving like a liquid during seismic shaking and re-solidify when shaking stops. The potential for liquefaction is highest in areas with high groundwater and loose, fine, sandy soils at depths of less than 50 feet. There are no mapped areas susceptible to liquefaction in Nevada County (DOC 2022).

Liquefaction may also lead to lateral spreading. Lateral spreading (also known as expansion) is the horizontal movement or spreading of soil toward an "open face," such as a streambank, the open side of fill embankments, or the sides of levees. It often occurs in response to liquefaction of soils in an adjacent area. The potential for failure from lateral spreading is highest in areas where there is a high groundwater table, where there are relatively soft and recent alluvial deposits, and where creek banks are relatively high.

MINERAL RESOURCES

The DOC Division of Mines and Geology has developed guidelines for the classification and designation of mineral lands, known as Mineral Resource Zones (MRZs), and retains publications of the Surface Mining and Reclamation Act Mineral Land Classification Project dealing with mineral resources in California. The program is located within a

mapped MRZ and contains areas designated MRZ-2a and 2b, areas underlain by mineral deposits where geological data indicate that significant measured or indicated (MRZ-2a) or inferred (MRZ-2b) resources are present.

Mineral resources, particularly gold, have played a major role in Nevada County. Gold was discovered in 1849 and was a major industry in Nevada County until the 1940s (Nevada County 1991). Other metals produced in the county since the late 1800s include silver, copper, lead, zinc, chromite, tungsten, and manganese (Nevada County 1991). Industrial minerals produced in the county include barite, quartz, limestone, asbestos, clay, and mineral paint. Construction related mineral resources in the county include sand, gravel, and aggregate.

A number of important mineral resource areas, as defined by the State of California, exist in Truckee (Town of Truckee 2006). These resources are generally associated with alluvial deposits along the length of the Truckee River Valley, although some mineral resources are associated with volcanic features, such as the Hirschdale cinder cone (Town of Truckee 2006).

PALEONTOLOGICAL RESOURCES

Paleontological resources are evidence of once-living organisms preserved in the geologic record. They include both the fossilized remains of ancient plants and animals and the traces thereof (e.g., tracks, burrows, prints) that are more than 5,000 years old. The fossil yielding potential of a particular area is highly dependent on the geologic age and origin of the underlying rocks. In general, older sedimentary rocks (more than 10,000 years old) are considered most likely to yield vertebrate fossils of scientific interest. The University of California Museum of Paleontology has identified approximately 500 vertebrate and invertebrate paleontological specimens in Nevada County that have been collected from geological formations dating to the Eocene (56–34 million years ago), Miocene (23–5.3 million years ago), and Pleistocene (1.8 million years ago to 11,000 years ago) epochs (UCMP 2022).

3.5.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

The examination of geology, soils, and mineral resources is based on information obtained from reviews of:

- the description of the proposed program;
- available literature, including documents published by Nevada County, state, and federal agencies, and published information dealing with geotechnical conditions in Nevada County; and
- applicable elements from the Nevada County General Plan, Nevada County Master Environmental Inventory, the Local Hazard Mitigation Plan, City of Grass Valley General Plan, Town of Truckee General Plan, and Nevada City General Plan.

THRESHOLDS OF SIGNIFICANCE

A geology, soils, and mineral resources impact is considered significant if implementation of the Nevada County Broadband Program would do any of the following:

- directly or indirectly expose people or structures to potential substantial adverse impacts, including the risk of loss, injury, or death through the rupture of a known earthquake fault, strong seismic shaking, seismic-related ground failure, soil liquefaction, or landslides;
- result in substantial soil erosion or the loss of topsoil;
- locate project facilities 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-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- locate project facilities on expansive soil, creating substantial direct or indirect risks to property;

- directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or
- 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 or result in the loss of a locally important mineral resource recovery site.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Directly or Indirectly Expose People or Structures to Adverse Seismic Impacts

The program area contains active and potentially active faults, especially in the eastern portion of the county. Displacement along any of these faults could result in structural damage to the fiber optic infrastructure. Ground shaking associated with seismic activity could expose fiber optic infrastructure to hazards such as liquefaction or landslide. Adherence to the California Building Code and standard engineering specifications for the installation of fiber optic infrastructure would minimize the potential for adverse seismic impacts. This impact would be **less than significant**.

Because the facilities consist primarily of underground fiber optic line and access vaults, any surface fault rupture or seismic-related ground failure, including liquefaction and landslides, would not expose people or structures to potential adverse seismic impacts. In addition, because the fiber optic line would be located primarily in road shoulders, the risk of localized ground failure is assumed to have already been minimized through previous grading, compaction, and use of engineered fills. Design and construction would be conducted in accordance with the California Building Code and other applicable engineering specifications and grading regulations and practices associated with compaction and treatment of soils along the alignment. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.5-2: Result in Substantial Erosion or Loss of Topsoil

Construction of the proposed program would require ground disturbance, including vegetation clearing, trenching, directional drilling, fill placement, pole placement excavation, and staging. The disturbed soil could be exposed to wind and water erosion and loss of topsoil. If individual fiber projects include over 1 acre of ground disturbance, the individual project would be required to comply with the Construction General Permit Order 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ) and implement an SWPPP. The SWPPP would describe specific BMPs that would be implemented to minimize the risk of erosion. Additionally, all of the individual fiber projects would be required to adhere to City, Town, and County grading ordinances, which require implementation of measures to minimize the risk of erosion. Therefore, this impact would be **less than significant**.

Implementation of the proposed program would require soil disturbance to install the fiber optic line and associated infrastructure. Soils within the program area in Nevada County have a lower erosive potential (Table 3.5-1). Soil disturbance would occur during vegetation clearing, trenching, directional drilling, fill stockpiling and placement, excavations for poles, and in staging areas. Any projects that disturb over 1 acre of soil would be required to comply with the California Construction General Permit Order 2009-0009-DWQ (as amended by 2010-0014-DWQ and 2012-0006-DWQ), which requires implementation of a SWPPP and specific BMPs to prevent erosion. Individual fiber projects that are constructed under the program within the unincorporated areas of the county would be required to comply with Nevada County Grading Code Section L-V 13.14, which states that all grading and construction activities resulting in land disturbance shall be designed with long-term erosion and sediment control as a primary consideration; County code also identifies specific measures to minimize erosion during construction. All projects that require a grading permit from the county are required to create an erosion and sediment control plan. For any projects within Nevada City, Nevada City Municipal Code Chapter 17.80.100 requires projects involving grading to include temporary or permanent erosion control measures, as necessary to prevent soil erosion from the site. For

projects within the City of Grass Valley, Section 12.06.120 of the Grass Valley Code requires any person engaged in activities that will or may result in pollutants entering the storm drains or watercourses to undertake all practicable measures to cease such activities, and/or eliminate or reduce such pollutants. For projects in the Town of Truckee, Section 11.04.010 of the Municipal Code requires any person conducting soil or rock disturbing construction to demonstrate compliance with the Town of Truckee Development Code and implement appropriate BMPs to prevent site discharges of soil, construction wastes, or debris, including contaminants from construction materials, tools, and equipment to the stormwater drainage system or Waters of the State. Because individual fiber projects implemented under the program would be required to adhere to relevant County, City, and Town code provisions and the Construction General Permit, the program's impact on erosion and loss of topsoil would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.5-3: Expose Infrastructure to or Cause Geologic Hazards such as Subsidence, Lateral Spreading, Liquefaction, Expansive Soils, and Slope Failure

The program could include installation of fiber optic infrastructure in areas exposed to geologic hazards such as subsidence, lateral spreading, liquefaction, expansive soils, and slope failure. Most of the fiber optic infrastructure installed for the program would be located underground, which would lessen the potential exposure to settlement and slope failure. Additionally, the fiber optic infrastructure would primarily be located in road shoulders, under existing public or private roads, in existing conduit, and in previously disturbed or developed areas, which have been previously graded and compacted. Standard road engineering and construction practices are designed to minimize the risk of exposure to lateral spreading, liquefaction, and expansion. The program would not exacerbate any geologic hazards due to the minimal extent of aboveground facilities and limited underground disturbance. Therefore, this impact would be **less than significant**.

The primary cause of subsidence in the City of Grass Valley and Nevada City is previous underground withdrawal of material from mining activities (Nevada County 1991). In addition to mines, Nevada County is at risk of subsidence from karst, which are topographic features (surficial and/or subterranean) formed by the dissolution of limestone (Nevada County 1995). Subsidence would typically be expected to adversely affect the structural integrity aboveground structures rather than the flexible underground fiber optic infrastructure.

As shown in Table 3.5-1, the program area contains many soil series with a high potential for expansion, including the Auburn, Boomer, Chaix, Cohasset, Horseshoe, Josephine, Rescue, Secca, Sobrante, and Trabuco series. No habitable structures are included as part of the program; therefore, there would be no risk to foundations built on expansive soils or any risk to people or structures.

Much of Nevada County is steeply sloping and susceptible to landslides. Most soils within the county are underlain by bedrock so there is a lack of depth of material that could result in massive ground failure (Nevada County 1991). Land adjacent to hydraulically mined areas could be subject to landslide activity (Nevada County 1991). Such areas include Malakoff Diggins, North Bloomfield area; Montezuma Hill, Nevada City; Chalk Bluff, You Bet/Red Dog area; North San Juan, and French Corral (Nevada County 1991). There are also steep slope areas in the Town of Truckee that may present a significant landslide hazard including some places along the Truckee River, the ridges and hillsides north and west of Downtown, the ridges north of Gateway and north and west of Donner Lake, and areas around Alder Hill. Because the fiber optic line would primarily be underground, it would not be exposed to landslides.

In addition, because the vast majority of the program area would be located in road shoulders, under existing public or private roads, in existing conduit, and in previously disturbed and developed areas, the risk of localized ground failure attributable to preexisting geologic conditions would be assumed to have already been reduced through previous grading, compaction, and use of engineered fills to construct the roads. Therefore, the impact associated with geologic hazards would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.5-4: Result in the Loss of a Unique Paleontological Resource or Unique Geological Feature

Paleontological resources and unique geological features exist in Nevada County. Unique geological features are generally aboveground and therefore would not be affected by the program. Because individual fiber projects would primarily be implemented in disturbed road shoulders and only in very limited areas of bedrock, and because of the limited paleontological bearing formations in Nevada County as well as the small diameter of the conduit to be installed, impacts to paleontological resources would be minimized. Nevertheless, unique paleontological resources could be damaged or destroyed during construction. Mitigation Measure 3.5-4 requires a site-specific paleontological resource assessment and moving facilities aboveground if any paleontological resources could be affected. The impact would be **potentially significant**.

The University of California Museum of Paleontology identifies approximately 500 vertebrate and invertebrate paleontological specimens that have been collected from geological formations dating to the Eocene (56-34 million years ago), Miocene (23-5.3 million years ago), and Pleistocene (1.8 million years ago to 11,000 years ago) epochs in Nevada County (UCMP 2022). Individual fiber projects would primarily be constructed in disturbed public or private roadways that have been previously graded, compacted, and filled to construct the roads as well as other disturbed and/or developed areas, including for construction of laterals. Previously disturbed portions of the program area would not contain paleontological resources. Where individual fiber projects would require drilling through rock, it is possible that intact, unique paleontological resources could be present within paleontologically sensitive rock formations that could be affected by the program. Specifically, those resources could be damaged or destroyed during installation of fiber optic line. Unique geological features are generally aboveground and therefore would not be affected by individual fiber projects. Because the program would primarily be implemented in disturbed or previously developed areas and only in very limited areas of bedrock, and because of the limited paleontological bearing formations in Nevada County as well as small diameter of the fiber optic conduit, impacts to paleontological resources would be minimal. Although minimal, unique paleontological resources could be present within rock formations that could be affected by construction of individual fiber projects and therefore the impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.5-4: Perform a Site-Specific Paleontological Resources Inventory Assessment by Rock Unit and if Paleontological Resources Could be Affected, Install Fiber Optic Line Aboveground

Before submitting a grading permit application that would include boring through bedrock, the applicant for an individual fiber project shall retain the services of a qualified professional paleontologist who shall prepare a paleontological resources inventory and assessment for any affected rock units. This report shall include the following components:

- A report of any fossils observed during a reconnaissance-level field survey.
- The results of a records search of appropriate paleontological databases (at a minimum, the database at the University of California, Berkeley Museum of Paleontology) to determine whether any previously recorded fossil localities are located within or immediately adjacent to the fiber optic facilities where rock boring is proposed.
- A determination as to whether the geologic formations are of high or low paleontological sensitivity, and a discussion supporting the reasons why the sensitivity determinations were made.

If the rock formation is determined to be of high paleontological sensitivity, the fiber optic infrastructure will be designed to be installed aboveground. Prior to issuance of grading permits that would allow for boring in bedrock, the approving local jurisdiction will review the report and findings to confirm no paleontological resources would be affected.

Significance after Mitigation

By avoiding rock units of high paleontological sensitivity, the impact on paleontological resources would be mitigated to a **less-than-significant** level.

Impact 3.5-5: Result in the Loss of Availability of a Known Mineral Resource or Locally Important Mineral Resource Recovery Site

Nevada County is designated as having areas underlain by mineral resources. Gold in particular has played a major role in Nevada County but other mineral resources may also be present. Because the program and individual fiber projects would primarily be implemented in public and private roads and in previously disturbed and/or developed areas and only in very limited areas of bedrock where mineral resources could be present, impacts to mineral resources would be **less than significant**.

A mineral resource is where deposit of commercially viable mineral or aggregate deposits exist. The program is located within a mapped MRZ and contains areas designated MRZ-2a and 2b, areas underlain by mineral deposits where geological data indicate that significant measured or indicated (MRZ-2a), or inferred (MRZ-2b) resources are present. Mineral resources, particularly gold, have played a major role in Nevada County. Gold was discovered in 1849 and was a major industry in Nevada County until the 1940s (Nevada County 1991). Other metals produced in the county since the late 1800s include silver, copper, lead, zinc, chromite, tungsten, and manganese (Nevada County 1991). Industrial minerals produced in the county include barite, quartz, limestone, asbestos, clay and mineral paint. Construction related mineral resources in the county include sand, gravel and aggregate. Additionally, a number of important mineral resource areas, as defined by the State of California, exist in Truckee (Town of Truckee 2006). These resources are generally associated with alluvial deposits along the length of the Truckee River Valley, although some mineral resources are associated with volcanic features, such as the Hirschdale cinder cone (Town of Truckee 2006).

Because the program would primarily be implemented in previously disturbed and/or developed areas and only in very limited areas of bedrock where mineral resources could be present, impacts to mineral resources would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

CUMULATIVE IMPACTS

Cumulative impacts related to seismic hazards, erosion, geologic hazards, paleontological and mineral resources are considered in the context of Nevada County. The proposed program consists of the installation of fiber optic infrastructure through trenching, subsurface boring, and where subsurface installation is infeasible, aboveground installation methods. The program would not expose people to substantial risk of loss, injury, or death relative to seismic and geologic hazards. Seismic effects are generally localized by nature and are not considered cumulative. The cumulative projects described in Table 3.1-2, as well as the Nevada County Broadband Program, would be required to adhere to applicable City, Town, County, and Central Valley and Lahontan RWQCB regulations that require temporary and permanent erosion control BMPs. Cumulative impacts to paleontological resources are typically site-specific and are mitigated on a case-by-case basis such as would be required by Mitigation Measure 3.5-4 for the proposed program. The program and individual fiber projects would not contribute cumulative impacts to mineral resources. Because regulations are in place to safeguard geologic and soil resources for all cumulative projects within Nevada County, the combined cumulative impact associated with the program's incremental effect and the effects of other projects would not be significant. Therefore, the program would result in a **less than cumulatively considerable** impact on geology, soils, and mineral resources.

3.6 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

This section presents a summary of regulations applicable to greenhouse gas (GHG) emissions, a summary of climate change science and GHG sources in California, quantification of GHGs generated by the proposed program and their contribution to global climate change, and analysis of the program's resiliency to climate change-related risks. In addition, mitigation measures are recommended to reduce the program's contribution to climate change.

No comments were made during the public scoping process that pertain to climate change and GHG emissions.

3.6.1 Regulatory Setting

FEDERAL

Supreme Court Ruling

Greenhouse Gas Emission Standards

In *Massachusetts et al. v. Environmental Protection Agency et al.,* 549 US 497 (2007), the Supreme Court of the United States ruled that carbon dioxide (CO_2) is an air pollutant as defined under the federal Clean Air Act (CAA) and that the US Environmental Protection Agency (EPA) has the authority to regulate GHG emissions. In 2010, EPA started to address GHG emissions from stationary sources through its New Source Review permitting program, including operating permits for "major sources" issued under Title V of CAA.

In October 2012, EPA and the National Highway Traffic Safety Administration (NHTSA), on behalf of the US Department of Transportation, issued final rules to further reduce GHG emissions and improve corporate average fuel economy (CAFE) standards for light-duty vehicles for model years 2017 and beyond (77 *Federal Register* 62624). These rules would increase fuel economy to the equivalent of 54.5 miles per gallon, limiting vehicle emissions to 163 grams of CO_2 per mile for the fleet of cars and light-duty trucks by model year 2025 (77 *Federal Register* 62630).

NHTSA and EPA set the CAFE standards to improve the average fuel economy and reduce GHG emissions generated by cars and light-duty trucks. NHTSA and EPA adopted a rule in 2019 for the current fuel efficiency standards for passenger cars and light trucks and established new standards covering model years 2021–2026 by maintaining the current model year 2020 standards through 2026 (SAFE Vehicles Rule). NHTSA and EPA also issued a regulation revoking California's CAA waiver, which allows California to set its own emissions standards, asserting that the waiver was preempted by federal law (SAFE Rule Part One, 84 *Federal Register* 51310, September 27, 2019). California, 22 other states, the District of Columbia, and two cities filed suit against the SAFE Rule Part One (*California et al. v. United States Department of Transportation et al.*, 1:19-cv-02826, US District Court for the District of Columbia). The lawsuit requested a "permanent injunction prohibiting Defendants from implementing or relying on the Preemption Regulation" but did not stay its implementation during legal proceedings. Part One of the SAFE Vehicles Rule went into effect on November 26, 2019. However, on April 26, 2021, EPA announced plans to reconsider Part One of the SAFE Rule as directed in Executive Order (EO) 13990, "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis." Public comments submitted in response to the notice of reconsideration ended on June 6, 2021, and EPA held a public hearing on June 22, 2021. On December 21, 2021, NHSTA published its CAFE Preemption Rule, which finalized its repeal of the SAFE Rule, thereby allowing states, including California, to develop and adopt their own fuel economy standards, and reinstated the previous federal CAFE standards.

STATE

Plans, policies, regulations, and laws established by the state agencies are generally presented below in the order they were established.

Statewide GHG Emission Targets and Climate Change Scoping Plan

Reducing GHG emissions in California has been the focus of the state government for approximately two decades. GHG emission targets established by the state legislature include reducing statewide GHG emissions to 1990 levels by 2020 (Assembly Bill [AB] 32 of 2006) and reducing them to 40 percent below 1990 levels by 2030 (Senate Bill [SB] 32 of 2016). EO S-3-05 calls for statewide GHG emissions to be reduced to 80 percent below 1990 levels by 2050. EO B-55-18 calls for California to achieve carbon neutrality by 2045 and achieve and maintain net negative GHG emissions thereafter. These targets are in line with the scientifically established levels needed in the United States to limit the rise in global temperature to no more than 2 degrees Celsius, the warming threshold at which major climate disruptions, such as super droughts and rising sea levels, are projected; these targets also pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.

The *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan), prepared by the California Air Resources Board (CARB), outlines the main strategies California will implement to achieve the legislated GHG emission target for 2030 and "substantially advance toward our 2050 climate goals" (CARB 2017). It identifies the reductions needed by each GHG emission sector (e.g., transportation, industry, electricity generation, agriculture, commercial and residential, pollutants with high global warming potential, and recycling and waste). CARB and other state agencies also released the January 2019 draft *California 2030 Natural and Working Lands Climate Change Implementation Plan* consistent with the carbon neutrality goal of EO B-55-18 (CalEPA et al. 2019). On May 10, 2022, CARB released the Draft 2022 Scoping Plan Update, which sets the framework for the state to achieve carbon neutrality as set by EO B-55-18 and an 80-percent reduction in 1990 baseline GHG emissions by 2050. At the time this Draft EIR was prepared, CARB had not adopted the final version of the Draft 2022 Scoping Plan Update.

The state has also passed more detailed legislation addressing GHG emissions associated with transportation, electricity generation, and energy consumption, as summarized below.

Transportation-Related Standards and Regulations

As part of its Advanced Clean Cars program, CARB established GHG emission standards and fuel efficiency standards for fossil fuel–powered on-road vehicles more stringent than EPA's standards. In addition, the program's zero-emission vehicle (ZEV) regulation requires battery, fuel cell, and plug-in hybrid electric vehicles (EVs) to account for up to 15 percent of California's new vehicle sales by 2025 (CARB 2018). When the rules are fully implemented by 2025, GHG emissions from the statewide fleet of new cars and light-duty trucks will be reduced by 34 percent and cars will emit 75 percent less smog-forming pollution than the statewide fleet in 2016 (CARB 2016).

EO B-48-18, signed into law in January 2018, requires all state entities to work with the private sector to have at least 5 million ZEVs on the road by 2030, as well as 200 hydrogen-fueling stations and 250,000 EV-charging stations installed by 2025. It specifies that 10,000 of these charging stations must be direct-current fast chargers.

CARB adopted the Low Carbon Fuel Standard (LCFS) in 2007 to reduce the carbon intensity (CI) of California's transportation fuels. Low-CI fuels emit less CO_2 than other fossil fuel–based fuels, such as gasoline and fossil diesel. The LCFS applies to fuels used by on-road motor vehicles and off-road vehicles, including construction equipment (Wade, pers. comm., 2017).

Legislation Associated with Electricity Generation

The state has passed legislation requiring the increasing use of renewables to produce electricity for consumers. California's Renewable Portfolio Standard (RPS) Program was established in 2002 (SB 1078) with the initial requirement to generate 20 percent of their electricity from renewables by 2017, 33 percent by 2020 (SB X1-2 of 2011), 52 percent by 2027 (SB 100 of 2018), 60 percent by 2030 (also SB 100 of 2018), and 100 percent by 2045 (also SB 100 of 2018).

LOCAL

Nevada County General Plan

The Nevada County General Plan (Nevada County 1995 [amended in 2008, 2010, 2014, 2020]) Safety Element contains the following goals and policies that address climate change resiliency and GHGs:

GOAL CC-10.13. Build Climate-Resilient Communities and Protect Neighborhoods, Public Infrastructure and Natural Resources Through Mitigating Climate Change.

- Policy CC-10.13.1. While the impacts of climate change on local communities are difficult to quantify, to the extent possible, Nevada County will prepare to address environmental hazards and vulnerabilities that climate change is currently influencing and will influence in the future.
- Policy CC-10.13.2. Nevada County shall identify within the existing safety hazards and vulnerabilities discussed in the Safety Element and the Local Hazard Mitigation Plan, which ones are likely to be exasperated by climate change and have the potential to negatively affect the people and the environment of Nevada County. During the periodic future updates of the Safety Element, the hazards and vulnerabilities shall be reviewed, updated and new policies adopted to reflect the most current information available regarding climate change and strategies to reduce hazard risks compounded by climate change.
- Policy CC-10.13.3. Nevada County shall identify, based on current and updated science, strategies to foster resiliency to climate change influences in both the built and undeveloped lands, including mitigation measures to reduce climate change causes and adaptation plans to decrease the effects of climate change, and to protect residents and businesses from increased risks of natural disasters, such as flooding, drought, severe weather events, and wildfire. The mitigation measures will be implemented as feasible.

City of Grass Valley General Plan

The Grass Valley 2020 General Plan does not include any goals, policies, or actions that address climate change.

Nevada City General Plan

No policies within the Nevada City General Plan address GHG emissions or climate change adaptation.

Town of Truckee General Plan

The Town of Truckee 2025 General Plan (Town of Truckee 2006) Conservation Element contains the following policy that pertains to climate change:

- Policy P14.3. Reduce automobile dependence, thereby reducing GHG emissions, by encouraging mixed land use patterns that locate services such as banks, childcare facilities, schools, neighborhood shopping centers, and restaurants close to employment centers and residential neighborhoods.

Northern Sierra Air Quality Management District

The Northern Sierra Air Quality Management District (NSAQMD) regulates air pollution within Nevada County. NSAQMD published guidance for *Air Quality Impacts of Land Use Project*s in CEQA analyses; however, the guidance document does not include recommendations for evaluating project- or program-level climate change impacts.

3.6.2 Environmental Setting

THE PHYSICAL SCIENTIFIC BASIS OF GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected toward space. The absorbed radiation is then emitted from

the earth as low-frequency infrared radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth.

Prominent GHGs contributing to the greenhouse effect are CO_2, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Human-caused emissions of these GHGs in excess of natural ambient concentrations are found to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. The Sixth Assessment Report contains the Intergovernmental Panel on Climate Change's (IPCC's) strongest warnings to date on the causes and impacts of climate change. Importantly, the report notes that, in terms of solutions, "We need transformational change operating on processes and behaviors at all levels: individual, communities, business, institutions, and governments. We must redefine our way of life and consumption."

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern. Whereas most pollutants with localized air quality effects have relatively short atmospheric lifetimes (approximately 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the lifetime of any GHG molecule depends on multiple variables and cannot be determined with any certainty, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO_2 emissions, approximately 55 percent are estimated to be sequestered through ocean and land uptake every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remain stored in the atmosphere (IPCC 2013).

The quantity of GHGs in the atmosphere responsible for climate change is not precisely known, but it is considered to be enormous. No single project alone would measurably contribute to an incremental change in the global average temperature or to global or local climates or microclimates. From the standpoint of CEQA, GHG impacts relative to global climate change are inherently cumulative.

GREENHOUSE GAS EMISSION SOURCES

Statewide GHG emissions

As discussed previously, GHG emissions are attributable in large part to human activities. The total GHG inventory for California in 2019 was 418.2 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) (CARB 2021). This is less than the 2020 target of 431 $MMTCO_2e$. Table 3.6-1 summarizes the statewide GHG inventory for California by percentage.

Table 3.6-1 Statewide GHG Emissions by Economic Sector

Sector	$MMTCO_2e$	Percent
Transportation	171	41%
Industrial	100	24%
Electricity (in state)	38	9%
Residential	33	8%
Agriculture and Forestry	29	7%
Commercial	25	6%
Electricity (Imports)	21	5%
Total	**418**	**100%**

Note: $MMTCO_2e$ = million metric tons of carbon dioxide equivalent.

Source: CARB 2021.

As shown in Table 3.6-1, transportation, industry, and in-state electricity generation are the largest GHG emission sectors.

Emissions of CO_2 are byproducts of fossil fuel combustion. Methane, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices, landfills, and forest fires. Nitrous oxide is also largely attributable to agricultural practices and soil management. CO_2 sinks, or reservoirs, include vegetation and the ocean, which absorb CO_2 through sequestration and dissolution (CO_2 dissolving into the water) and are two of the most common processes for removing CO_2 from the atmosphere.

Town of Truckee GHG Emissions Inventory

In 2016, the Town prepared baseline GHG emissions inventories for the year 2008 for both community activities and the Town of Truckee's municipal operations (Town of Truckee 2018) (Table 3.6-2). In 2017 and 2018, the Town prepared a GHG emissions inventory update for the year 2016 for both community activities and Truckee's municipal operations. The discussion below provides information on recent GHG emissions trends for the year 2016 as well as how emissions trends have changed between 2008 and 2016.

Table 3.6-2 Town of Truckee 2008 and 2016 GHG Inventories (Community-Wide and Municipal Operations)

Emissions Sector	2008 GHG Emissions ($MTCO_2e$)[1]	Percent of Total (2008)	2016 GHG Emissions ($MTCO_2e$)[1]	Percent of Total (2016)	Percent Change (2008-2016)
Community-Wide Emissions					
Residential Energy Use	100,003	43%	64,679	42%	-35%
Non-Residential Energy Use	51,871	23%	25,216	16%	-51%
Community Transportation	64,044	28%	56,428	37%	-12%
Community-Generated Solid Waste	4,256	2%	3,804	2%	-11%
Wastewater Treatment and Potable Water Service	10,175	4%	3,140	2%	-69%
TOTAL COMMUNITY-WIDE[2]	230,349	100%	153,267	100%	-33%
Municipal Operations					
Buildings and Facilities	1,056	42%	796	36%	-25%
Vehicle Fleet	1,102	44%	960	43%	-13%
Government-Generated Solid Waste	7	0.3%	6	0%	-14%
Employee Commute	354	14%	447	20%	26%
TOTAL MUNICIPAL OPERATIONS[1]	2,519	100%	2,209	100%	-12%

Note: GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent.

[1] Totals may not sum exactly due to rounding.

Source: Town of Truckee 2018.

Nevada County, Grass Valley, and Nevada City have not prepared GHG inventories for their respective regions.

EFFECTS OF CLIMATE CHANGE ON THE ENVIRONMENT

The global average temperature is expected to increase by 3 to 7 degrees Fahrenheit by the end of the century, depending on future GHG emission scenarios (IPCC 2007). According to California's Fourth Climate Change Assessment, depending on future GHG emissions scenarios, average annual maximum daily temperatures in California are projected to increase between 3.6 and 5.8 degrees Fahrenheit by 2050 and by 5.6 to 8.8 degrees Fahrenheit by 2100 (OPR, CEC, and CNRA 2018).

Other environmental resources could be indirectly affected by the accumulation of GHG emissions and resulting rise in global average temperature. In recent years, California has been marked by extreme weather and its effects. Climate model projections for California demonstrate that impacts will vary throughout the state and show a

tendency for the northern part of the state to become wetter while the southern portion of California will become drier (Pierce et al. 2018). According to the California Natural Resources Agency's (CNRA) report, *Safeguarding California Plan: 2018 Update* (CNRA 2018), California experienced the driest 4-year statewide precipitation on record from 2012 through 2015; the warmest years on average in 2014, 2015, and 2016; and the smallest and second smallest Sierra snowpack on record in 2015 and 2014 (CNRA 2018). Climate model projections included in California's Fourth Climate Change Assessment, demonstrate that seasonal summer dryness in California may be prolonged due to earlier spring soil drying and would last longer into the fall and winter rainy season. Increases in temperature are also predicted to result in changes to California's snowpack. Based on climate model projections, the mean snow water equivalent, a common measurement that indicates the amount of water contained within snowpack, in California is anticipated to decline to two-thirds of its historic average by 2050 and between less than half and less than one-third of historic average by 2100, depending on future emissions scenarios (OPR, CEC, and CNRA 2018).

Climate model projections demonstrate that California will experience variation in precipitation patterns as well. The Northern Sierra Nevada range experienced its wettest year on record in 2016 (CNRA 2018). As temperatures increase, the increase in precipitation falling as rain rather than snow also could lead to increased potential for floods because water that would normally be held in the snowpack of the Sierra Nevada and Cascade mountains until spring will flow into the Central Valley concurrently with winter rainstorm events. This scenario will place more pressure on California's levee/flood control system (CNRA 2018). As the climate continues to warm, extreme precipitation events in California will increase and could, subsequently, increase the probability of 'mega-flood' events (Polade et al. 2017).

Climate change is also projected to result in tertiary impacts on energy infrastructure throughout the California. Changes in temperature, precipitation patterns, extreme weather events, and sea-level rise have the potential to affect and decrease the efficiency of thermal power plants and substations, decrease the capacity of transmission lines, disrupt electrical demand, and threaten energy infrastructure with the increased risk of flooding (CNRA 2018).

According to California's Fourth Climate Change Assessment, climate change will create impacts on the state's transportation network that will have 'ripple effects' including direct and indirect impacts on inter-dependent infrastructure networks as well as negative impacts on the economy. Without appropriate adaptations strategies for roadway materials (i.e., asphalt and pavement), researchers estimate that the median total cost to California for 2040-2070 will be between $1 billion and $1.25 billion (OPR, CEC, and CNRA 2018). The California Department of Transportation owns and operates more than 51,000 miles along 265 highways, as well as three of the busiest passenger rail lines in the nation. Sea level rise, storm surge, and coastal erosion are imminent threats to highways, roads, bridge supports, airports, transit systems, and rail lines near sea level and seaports. Shifting precipitation patterns, increased temperatures, wildfires, and increased frequency in extreme weather events also threaten transportation systems across the state. Temperature extremes and increased precipitation can increase the risk of road and railroad track failure, decreased transportation safety, and increased maintenance costs (CNRA 2018). Modeling for flood events in California demonstrates that approximately 140 miles of highways are susceptible to flooding in a 100-year storm event by 2020, and approximately 370 miles by the year 2100 (OPR, CEC, and CNRA 2018).

Water availability and changing temperatures affect the prevalence of pests, disease, and species, which will directly impact crop development, forest health, and livestock production. Other environmental concerns include decline in water quality, groundwater security, and soil health (CNRA 2018). Vulnerabilities of water resources also include risks to degradation of watersheds, alteration of ecosystems and loss of habitat, (OPR, CEC, and CNRA 2018).

California's Fourth Climate Change Assessment also identifies the impacts climate change will have on public health and social systems. Average temperature increases in California are estimated to have impacts on human mortality, with 6,700 to 11,300 additional annual deaths in 2050, depending on higher or lower emissions scenarios (Ostro et al. 2011). Studies have also shown that impacts from climate change can also have indirect impacts on public health, such increased vector-borne diseases, and stress and mental trauma due to extreme events, economic disruptions, and residential displacement (CDPH 2012; McMichael & Lindgren 2011; United States Global Change Research Program 2016).

3.6.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

Short-term construction-generated GHG emissions were calculated using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0 (see Appendix B), as recommended by NSAQMD and other air districts in California. Modeling was based on program-specific information (e.g., area to be graded, area to be paved, energy information) where available; assumptions based on typical construction activities; and default values in CalEEMod that are based on the program location and land use types. In general, for 1 mile of underground fiber optic conduit, boring activities were estimated to last approximately 10 days and trenching would last for an average of 18 to 20 days (approximately 30 days total). For the purposes of this analysis, it is assumed that up to five individual fiber optic line projects could be implemented concurrently throughout Nevada County and participating cities. This number of overlapping fiber optic lines was extrapolated to account for 1 year of total emissions by assuming that up to 13 of these overlapping (five) lines could be constructed within 365 days. Total construction emissions detailed in this analysis provide a comprehensive view of program-level GHG emissions, which would occur over the course of program implementation and is representative of 1 year of emissions.

Operational activities that would generate mobile source emissions for any given fiber optic line and associated facilities constructed under the program would be limited to routine maintenance checks. It was assumed that the program would induce no more than one new vehicle trip per day on average. The program would not induce any new electrical demand or generate solid water or wastewater beyond existing conditions.

Detailed model assumptions and inputs for these calculations are presented in Appendix B.

THRESHOLDS OF SIGNIFICANCE

The issue of global climate change is inherently a cumulative issue because the GHG emissions of individual fiber projects cannot be shown to have any material effect on global climate. Thus, the program's impact on climate change is addressed only as a cumulative impact.

State CEQA Guidelines Section 15064 and relevant portions of Appendix G recommend that a lead agency consider a project's consistency with relevant, adopted plans and discuss any inconsistencies with applicable regional plans, including plans to reduce GHG emissions. Under Appendix G of the State CEQA Guidelines, implementing the program would result in a cumulatively considerable contribution to climate change if it would:

- generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs.

As noted in Section 3.6.1, "Regulatory Setting," NSAQMD has not published guidance for evaluating climate change impacts for projects or programs undergoing CEQA review. CEQA provides lead agencies with deference in developing thresholds for determining the significance of an impact, so long as such thresholds are substantiated by evidence. A nearby air district, the Sacramento Metropolitan Air Quality Management District (SMAQMD), who governs and regulates ambient air quality in Sacramento County, has recently published guidance for evaluating the impacts of GHGs for CEQA analyses. SMAQMD recommends that a 1,100 metric tons of carbon dioxide equivalent ($MTCO_2e$) per year bright-line threshold be applied to construction emissions, which represent the majority of emissions generated by the program. SMAQMD has developed this threshold in consideration of the state's long-term GHG reduction goals and indicates that projects that emit fewer than 1,100 $MTCO_2e$ per year of construction emissions would not result in a cumulatively considerable contribution to climate change.

Thus, as a program comprised mostly of construction emissions and limited operational emissions, the proposed program would make a potentially significant contribution to global climate change if it were to:

- generate more than 1,100 $MTCO_2e$ per year of construction emissions.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.6-1: Potential to Generate GHG Emissions During Construction and Operation

Program-generated construction emissions would total 325 $MTCO_2e$ per year from installation of new fiber optic lines throughout the county. Program operations would induce some level of new vehicle trips associated with maintenance; however, this level of vehicle activity would generate less than 1 $MTCO_2e$. These levels of emissions would not exceed the applicable stationary bright-line threshold of 1,100 $MTCO_2e$ per year. Therefore, this impact would be **less than significant**.

Construction-related activities would generate GHG emissions from the use of heavy-duty off-road equipment, materials transport, and worker commute trips. Based on modeling conducted for the proposed program, construction of five overlapping fiber optic segments (approximately 10 feet wide and 1 mile long) is estimated to generate a total of 25 $MTCO_2e$ of GHG emissions for the duration of construction activities over the course of an assumed 30-day construction period (Table 3.6-3). To represent 1 year of total emissions, it is assumed that installation of fiber optic cable lines could occur consecutively throughout the year. Assuming a total 30-day construction period, approximately 65 (or five concurrently constructed projects) could be implemented within 1 year. This level of emissions would total 325 $MTCO_2e$/year. Table 3.6-3 shows total construction emissions generated over the course of completing construction activities for the proposed program within one year. Refer to Appendix B for construction assumptions and detailed input parameters and results, respectively.

Table 3.6-3 Construction-Generated Greenhouse Gas Emissions

Construction Year	Total $MTCO_2e$
2023	325
SMAQMD Bright-Line Threshold	1,100
Exceeds Thresholds?	No

Notes: GHG = greenhouse gas; $MTCO_2e$ = metric tons of carbon dioxide equivalent; SMAQMD = Sacramento Metropolitan Air Quality Management District.

See Appendix B for construction assumptions.

Source: Modeled by Ascent Environmental in 2022.

As shown above, construction of five overlapping fiber optic cable lines would generate substantially fewer emissions than the applied threshold of 1,100 $MTCO_2e$ per year. As noted in Chapter 2, "Project Description," installation of fiber optic lines would occur concurrently, with multiple cable lines being implemented in succession resulting in 325 $MTCO_2e$/year during the first year of construction (i.e., 2023).

Operation of the program would induce only a small number of maintenance trips, approximately 1 trip per day throughout the county to inspect and maintain new lines. This level of emissions would not exceed 1 $MTCO_2e$ per year for each segment. Moreover, as discussed in Chapter 2, "Project Description," a main objective of the program is to reduce VMT throughout the program area as telecommuting options become more accessible through improved wireless internet connectivity. Overall, VMT reductions associated with this objective would exceed any additional VMT generated from inspection and maintenance activities.

The program would also not induce new electricity beyond what is currently demanded within the county, nor would it result in solid waste or wastewater. Operational emissions associated with the program would therefore be negligible.

Because construction emissions would be below the applicable 1,100 $MTCO_2e$ per year threshold of significance, program-related GHG emissions would not be a considerable contribution to global climate change. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

CUMULATIVE IMPACTS

The issue of global climate change is inherently a cumulative issue because the GHG emissions of individual fiber projects cannot be shown to have any material effect on global climate. Thus, the program's impact on climate change, described above, is addressed as a cumulative impact. The cumulative effects of the proposed program would be the same as those described in Impact 3.6-1, above. Because the program would not result in a significant impact related to climate change, the program would not make a considerable contribution to cumulative impacts associated with climate change.

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3.7 HAZARDS AND HAZARDOUS MATERIALS

This section evaluates the potential for the proposed program to create a hazard to the public and the environment through the use, transport, disposal, or accidental release of hazardous materials; disturbance of contaminants from hazardous materials sites; exposure of people to safety hazards or excessive noise near airports; and impairment of or interference with adopted emergency plans.

Comments were received in response to the notice of preparation (see Appendix A) that identified specific hazards and hazardous materials concerns regarding the following: (1) the potential for historic or future activities to result in the release of hazardous wastes and substances; (2) the potential to encounter soils contaminated with aerially deposited lead; (3) the potential to encounter mine waste associated with current and former mining operations; (4) the potential to encounter contaminated building materials, such as lead-based paint, mercury, asbestos-containing materials, or polychlorinated biphenyl caulk; (5) the potential to import contaminated backfill soil to excavated areas; and (6) the potential to encounter organochlorinated pesticides in areas with current or former agricultural uses.

The analysis in this section is based on a review of available literature, including documents published by federal, state, county, and local agencies, as well as regulatory databases of hazardous materials sites maintained by the California Department of Toxic Substances Control (DTSC) and State Water Resources Control Board (SWRCB). The "Analysis Methodology" discussion below provides further detail on the approach used in this evaluation.

3.7.1 Regulatory Setting

FEDERAL

Management of Hazardous Materials

Various federal laws address the proper handling, use, storage, and disposal of hazardous materials, as well as require measures to prevent or mitigate injury to health or the environment if such materials are accidentally released. The US Environmental Protection Agency (EPA) is the agency primarily responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials. Applicable federal regulations pertaining to hazardous materials are primarily contained in Code of Federal Regulations (CFR) Titles 29, 40, and 49. Hazardous materials, as defined in the Code, are listed in 49 CFR 172.101. Management of hazardous materials is governed by the following laws.

- The Toxic Substances Control Act of 1976 (15 US Code [USC] Section 2601 et seq.) regulates the manufacturing, inventory, and disposition of industrial chemicals, including hazardous materials. Section 403 of the Toxic Substances Control Act establishes standards for lead-based paint hazards in paint, dust, and soil.
- The Resource Conservation and Recovery Act of 1976 (42 USC 6901 et seq.) is the law under which EPA regulates hazardous waste from the time the waste is generated until its final disposal ("cradle to grave").
- The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (also called the Superfund Act or CERCLA) (42 USC 9601 et seq.) gives EPA authority to seek out parties responsible for releases of hazardous substances and ensure their cooperation in site remediation.
- The Superfund Amendments and Reauthorization Act of 1986 (Public Law 99-499; USC Title 42, Chapter 116), also known as SARA Title III or the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), imposes hazardous materials planning requirements to help protect local communities in the event of accidental release.
- The Spill Prevention, Control, and Countermeasure (SPCC) rule includes requirements for oil spill prevention, preparedness, and response to prevent oil discharges to navigable waters and adjoining shorelines. The rule requires specific facilities to prepare, amend, and implement SPCC Plans. The SPCC rule is part of the Oil Pollution Prevention regulation, which also includes the Facility Response Plan rule.

Transport of Hazardous Materials

The US Department of Transportation regulates transport of hazardous materials between states and is responsible for protecting the public from dangers associated with such transport. The federal hazardous materials transportation law, 49 USC 5101 et seq. (formerly the Hazardous Materials Transportation Act 49 USC 1801 et seq.) is the basic statute regulating transport of hazardous materials in the United States. Hazardous materials transport regulations are enforced by the Federal Highway Administration, the US Coast Guard, the Federal Railroad Administration, and the Federal Aviation Administration.

Worker Safety

The federal Occupational Safety and Health Administration (OSHA) is the agency responsible for assuring worker safety in the handling and use of chemicals identified in the Occupational Safety and Health Act of 1970 (Public Law 91-596, 9 USC 651 et seq.). OSHA has adopted numerous regulations pertaining to worker safety, contained in CFR Title 29. These regulations set standards for safe workplaces and work practices, including standards relating to the handling of hazardous materials and those required for excavation and trenching.

Navigable Airspace

Federal Aviation Regulations Title 14 Part 77 addresses the safe, efficient use, and preservation of the navigable airspace. The purpose of the Part 77, is to establish the following:

- the requirements to provide notice to the Federal Aviation Administration (FAA) of certain proposed construction, or the alteration of existing structures;
- the standards used to determine obstructions to air navigation, and navigational and communication facilities;
- The process for aeronautical studies of obstructions to air navigation or navigational facilities to determine the effect on the safe and efficient use of navigable airspace, air navigation facilities or equipment; and
- The process to petition the FAA for discretionary review of determinations, revisions, and extensions of determinations.

Section 77.9 of Part 77 lists the types of construction or alterations that require filing notice with the FAA, including any construction or alteration that is more than 200 feet above ground level at its site. The proposed program would not include utility poles greater than 100 feet tall.

Healthy Forest Restoration Act

The Healthy Forest Restoration Act, enacted by the US Congress on January 7, 2003, established a protocol for the creation of a type of document that articulated a wildfire safety plan for communities at risk from wildland fires known as a community wildfire protection plan (CWPP). There are three comprehensive CWPPs for Nevada County, which cover the Truckee, North San Juan, and western Nevada County areas (see further description of the CWPPs below under "Local").

STATE

Management of Hazardous Materials

In California, both federal and state community right-to-know laws are coordinated through the Governor's Office of Emergency Services. The federal law, SARA Title III or EPCRA, described above, encourages and supports emergency planning efforts at the state and local levels and to provide local governments and the public with information about potential chemical hazards in their communities. Because of the community right-to-know laws, information is collected from facilities that handle (e.g., produce, use, store) hazardous materials above certain quantities. The provisions of EPCRA apply to four major categories:

- emergency planning,
- emergency release notification,

- reporting of hazardous chemical storage, and
- inventory of toxic chemical releases.

The corresponding state law is Chapter 6.95 of the California Health and Safety Code (Hazardous Materials Release Response Plans and Inventory). Under this law, qualifying businesses are required to prepare a Hazardous Materials Business Plan, which would include hazardous materials and hazardous waste management procedures and emergency response procedures, including emergency spill cleanup supplies and equipment. At such time as the applicant begins to use hazardous materials at levels that reach applicable state and/or federal thresholds, the plan is submitted to the administering agency.

The DTSC, a division of the California Environmental Protection Agency, has primary regulatory responsibility over hazardous materials in California, working in conjunction with EPA to enforce and implement hazardous materials laws and regulations. As required by Section 65962.5 of the California Government Code, DTSC maintains a hazardous waste and substances site list for the state, known as the Cortese List. Individual regional water quality control boards (RWQCBs) are the lead agencies responsible for identifying, monitoring, and cleaning up leaking underground storage tanks (USTs). The program area is within the jurisdiction of the Central Valley and Lahontan RWQCBs.

The California Environmental Protection Agency (CalEPA) oversees the State's Unified Program. The Unified Program is intended to protect residents from hazardous wastes and materials through ensuring that local regulatory agencies apply statewide standards when they issue permits, conduct inspections, and engage in enforcement activities. Under the Unified Program, Certified Unified Program Agencies (CUPA) were established throughout the state and are responsible for carrying out CalEPA's Unified Program responsibilities at the local level. The Nevada County Environmental Health Department (NCEHD) is the CUPA for the program area.

Transport of Hazardous Materials and Hazardous Materials Emergency Response Plan

The State of California has adopted US Department of Transportation regulations for the movement of hazardous materials originating within the state and passing through the state; state regulations are contained in 26 California Code of Regulations (CCR). State agencies with primary responsibility for enforcing state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol and the California Department of Transportation (Caltrans). Together, these agencies determine container types used and license hazardous waste haulers to transport hazardous waste on public roads.

California has developed an emergency response plan to coordinate emergency services provided by federal, state, and local governments and private agencies. Response to hazardous materials incidents is one part of the plan. The plan is managed by the Governor's Office of Emergency Services, which coordinates the responses of other agencies in the program area.

Management of Construction Activities

Through the Porter-Cologne Water Quality Act and the National Pollution Discharge Elimination System (NPDES) program, RWQCBs have the authority to require proper management of hazardous materials during project construction. For a detailed description of the Porter-Cologne Water Quality Act, the NPDES program, and the role of the Central Valley and Lahontan RWQCB, see Section 3.8, "Hydrology and Water Quality."

SWRCB adopted the statewide NPDES General Permit in August 1999. The state requires that projects disturbing more than one acre of land during construction file a Notice of Intent with the RWQCB to be covered under this permit. Construction activities subject to the General Permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non-stormwater discharges to storm sewer systems and other waters. A stormwater pollution prevention plan (SWPPP) must be developed and implemented for each site covered by the permit. The SWPPP must include best management plans (BMPs) designed to prevent construction pollutants from contacting stormwater and keep products of erosion from moving off-site into receiving waters throughout the construction and life of the project; the BMPs must address source control and, if necessary, pollutant control.

Worker Safety

The California Occupational Safety and Health Administration (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations within the state. Cal/OSHA standards are typically more stringent than federal OSHA regulations and are presented in Title 8 of the CCR. Cal/OSHA conducts on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.

Title 8 of the CCR also includes regulations that provide for worker safety when blasting and explosives are utilized during construction activities. These regulations identify licensing, safety, storage, and transportation requirements related to the use of explosives in construction.

California Public Utilities Commission General Orders Related to Wildfire Safety

General Order 95, last updated in January 2020, contains rules for the design, construction, maintenance, inspection, repair, and replacement of overhead utility facilities, including electric utility facilities, communication facilities, and cable television facilities. The purpose of these rules is to formulate, for the State of California, requirements for overhead line design, construction, and maintenance, the application of which will ensure adequate service and secure safety to persons engaged in the construction, maintenance, operation, or use of overhead lines and to the public in general, including during wildfires.

General Order 128 contains uniform requirements for underground electrical supply and communication systems, ensuring adequate service and secure safety to all persons engaged in the construction, maintenance, operation, or use of underground systems and the public in general.

Strategic Fire Plan for California

Sections 4114 and 4130 of the Public Resources Code (PRC) authorize the California Board of Forestry and Fire Protection (Board) to establish a fire plan that, among other things, establishes the levels of statewide fire protection services for State Responsibility Area (SRA) lands. These levels of service recognize other fire protection resources at the federal and local levels that collectively provide a regional and statewide emergency response capability. In addition, California's integrated mutual aid fire protection system provides fire protection services through automatic and mutual aid agreements for fire incidents across all ownerships. In 2019, the Board adopted the latest *Strategic Fire Plan for California*. This statewide fire plan was developed collaboratively by the Board and the California Department of Forestry and Fire Protection (CAL FIRE), in consultation with a group of outside experts to complete a needs assessment and to form the Fire Plan Steering Committee. This committee worked for more than a year preparing the 2019 Strategic Fire Plan. The Strategic Fire Plan seeks to protect lives, residential property, and natural resources. It is the basis for assessing California's complex and dynamic natural and built environment and identifying a variety of actions to minimize the negative effects of wildland fire. Implementation of the *Strategic Fire Plan for California* is intended to occur at all levels of CAL FIRE, as well as through partnerships with local, state, and federal agencies; private organizations (e.g., fire safe councils, homeowners' associations, industry); and citizens.

Senate Bill 1704

The SB 1704 (Vegetation Management Program) establishes the basic processes and procedures consistent with the need to manage chaparral-covered and associated lands within California. The Vegetation Management Program allows private landowners to enter into a contract with CAL FIRE to use prescribed fire to accomplish a combination of fire protection and resource management goals. The main goals of the program are the reduction of conflagration fires, the optimization of soil and water productivity, and the protection and improvement of intrinsic floral and faunal values.

CAL FIRE Nevada-Yuba-Placer Unit Fire Management Plan

The Nevada-Yuba-Placer Unit Fire Management Plan (NEU Regional Plan) is a product of the implementation of the State Fire Plan (CAL FIRE 2021). The NEU Regional Plan provides background information, fuels and fire data, proposed projects, and individual Battalion reports outlining mitigating activities commonly carried out each year. The NEU Regional Plan is the local road map to create and maintain defensible landscapes to protect those assets vital to the state. NEU's priorities and goals are as follows:

Priorities:

- To reduce the risks to citizens and emergency responders from wildland fire.
- Develop a "land stewardship" ethic in the residents of the NEU.

Goals:

- Demonstrate methods that individuals and the community can use to properly manage their lands to improve forest resiliency and reduce the ignitability of structures in the Wildland Urban Interface.
- Raise citizen and stakeholder awareness of fire risks and enlist their help and participation in risk reduction.
- Assist local government in developing standards, policies, and plans, which will result in local, and landscape level fuel modifications.
- Implement local and landscape-level projects and programs that decrease fire risk and increase the potential for success on initial attack.

LOCAL

Nevada County

Nevada County Environmental Health Department

The Nevada County Environmental Health Department maintains a Memorandum of Understanding with DTSC to complete all site inspections and to enforce state-established regulations concerning the handling, storage, transport, and disposal of hazardous materials. It also is responsible for responding to hazardous materials spill incidents in coordination with other agencies. During hazardous material spill incidents, in accordance with the Nevada County Emergency Operations Plan, the Nevada County Environmental Health Department is also responsible for providing technical information and assistance as a member of the multidisciplinary team responding to hazardous materials incidents, providing regulatory oversight of the disposal of hazardous materials/wastes, and providing oversight of mitigation actions at hazardous materials incidents. The department is also responsible for maintaining the Hazardous Materials Area Plan for the County. Recognized as the CUPA for the County, the department is tasked with assisting businesses that handle hazardous materials in receiving the appropriate permits and inspecting businesses on a regular basis.

Nevada County Local Hazard Mitigation Plan

In August 2017, Nevada County adopted the current Nevada County Local Hazard Mitigation Plan (NCLHMP) to help reduce or eliminate long-term risk to people and property from hazards. The NCLHMP includes a risk assessment that identifies and profiles hazards that pose a risk to the County and participating jurisdictions, assessed the vulnerability of the planning area to these hazards, and examined the existing capabilities to mitigate them. As stated in the plan, Nevada County is vulnerable to several hazards, including floods, earthquakes, drought, liquefaction, landslides, wildfires, and other severe weather events.

The NCLHMP includes a section specific to hazardous material transport that discusses the characteristics and classification of various hazardous materials, identifies what hazardous material risks exist in the county, and describes past hazardous material incidents that have occurred in the county. Related to wildfire hazards, the NCLHMP states that ongoing and aggressive wildfire mitigation activities in the county continue to effectively mitigate and prevent out-of-control, damaging wildfires despite an increase in wildfire risk and vulnerability.

Nevada County Emergency Operations Plan

The Nevada County Emergency Operations Plan (EOP) delineates the preparation for, emergency response to, and recovery from the effects of a natural disaster or human-caused incident occurring wholly within or affecting any unincorporated area of Nevada County (Nevada County 2011). The EOP is intended to ensure the preservation of life, property, and the environment during natural disasters and emergencies or due to manufactured incidents. Appendix

D of the EOP contains the Hazardous Materials Area Plan, which establishes the policies, responsibilities, and procedures required to protect the health and safety of Nevada County's citizens, the environment, and public and private property from the effects of hazardous materials emergency incidents. The Hazardous Materials Area Plan also serves as a guide for agencies of Nevada County, its incorporated cities, and other local entities in mitigating hazardous materials emergencies.

Encroachment Permit Conditions of Approval

Projects that would require work within public or private roads in the county would be required to obtain an encroachment permit from the Nevada County Department of Public Works consistent with Article 4.A of the Nevada County Code. Conditions of approval for the encroachment permit include requirements to protect the roadway travel and implementing plans for minimum interference with traffic. The conditions of approval also require development and implementation of traffic control plans that adequately document where signs, flaggers, cones, or other warning devices are placed for oncoming traffic that could be affected by work being performed and/or equipment used in county roadway rights-of-way.

Nevada County General Plan

The Safety Element of the Nevada County General Plan includes goals, objectives, and policies intended to reduce short and long-term loss of life, injuries, and damage to property resulting from natural and human-caused public safety hazards, including hazards from airport operations and the transportation of hazardous materials (Nevada County 1995 [amended in 2008, 2010, 2014]). The following goals and policies are applicable to the program:

GOAL EP-10.1: Provide a coordinated approach to hazard and disaster response preparedness.

- Policy EP-10.1.4: Provide for adequate evacuation routes in areas of high fire hazard, high potential for dam failure, earthquake, seiches, avalanche, flooding or other natural disaster.

GOAL AH-10.4: Ensure the safety and compatibility of land uses in the vicinity of airports and military airspace.

- Policy AH-10.4.1: Maintain land use and development patterns in the vicinity of airports that reflect and are consistent with policies for the different airport land use compatibility zones within the defined Airport Influence Areas as set forth by the Nevada County and Truckee Tahoe Airport Land Use Compatibility Plans (ALUCPs).
- Policy AH-10.4.2: Through appropriate zoning regulations, the County shall enforce airport ground and height safety areas, and land use compatibility standards, consistent with the ALUCPs adopted by Nevada County and Truckee Tahoe Airport Land Use Commissions, as those plans are currently in effect.

GOAL HM-10.5: Protect public health, safety, natural resources, and property through regulation of use, storage, transport, and disposal of hazardous materials.

- Policy HM-10.5.1: Provide means for the identification, safe use, storage, transport, and disposal of hazardous materials, including household hazardous waste.
- Policy HM-10.5.4: The County will encourage the cleanup of sites contaminated by mine wastes or other hazardous materials.
- Policy HM-10.5.5: The County will actively promote prompt clean-up or remediation of properties contaminated by mine waste or other hazardous materials and shall not grant any discretionary or ministerial land use approvals to develop or change boundaries or reconfigure parcels believed to be contaminated, unless and until the nature, extent, type and location of the contamination is determined and satisfactory arrangements are made for clean-up or remediation, in accordance with Nevada County standards or state regulations.

City of Grass Valley

Encroachment Permit

Projects that would require work within City of Grass Valley roadway rights-of-way would be required to obtain an encroachment permit from the City of Grass Valley Public Works Department. Project proponents must complete an encroachment permit application that includes preparation of a traffic control plan detailing lane, shoulder or parking

closures and any required pedestrian re-routing for sidewalk closures. The traffic control plan must show type, location and spacing of traffic control devices (signs, cones, barricades, etc.) and location of flaggers (City of Grass Valley n.d.).

City of Grass Valley 2020 General Plan

The Safety Element of the City of Grass Valley 2020 General Plan identifies and describes germane safety-related issues, establishes a goal and objectives related to identified hazards, and establishes policies and implementation measures designed to reduce, eliminate, or avoid risk to persons and property (City of Grass Valley 1999). The following goals from the Safety Element are applicable to the proposed program:

GOAL 1-SG: Reduce the potential risk of death, injury, property damage, and economic and social dislocation resulting from hazards.

GOAL 5-SO: Reduction of risk from exposure to hazardous materials, including contaminated sites.

Nevada City

Encroachment Permits

Nevada City Code Section 12.02.020 requires projects that would encroach into city roadway rights-of-way to obtain an encroachment permit. For any encroachment that requires a lane closure or road closure, a site-specific traffic control plan shall be prepared by the applicant and submitted to the City Engineer for review a minimum of 10 business days prior to the scheduled start date. Road closures require a minimum of 3 business day notice and must be approved by the Department of Public Works, police department, and fire department prior to closure. The need for flaggers would be determined based on-site conditions.

Nevada City General Plan 1980-2000

The Public Safety Element of the Nevada City General Plan addresses hazards to public safety, including noise exposure, geotechnical and seismic hazards, fire, and other hazards (Nevada City 1986 [amended in 2008, 2009, 2014]). The following objectives from the Public Safety Element are applicable to the proposed program:

- Maintain noise levels compatible with the rural and small-town setting of Nevada City.
- To contribute to an efficient and effective system of health and emergency services.

Town of Truckee

Town of Truckee Municipal Code Chapter 13.01 requires work that would occur within town roadway rights-of-way to obtain an encroachment permit from Department of Public Works. Section 13.01.190 of the Truckee Municipal Code requires permittees to take appropriate measures to assure that, during the performance of work, traffic conditions shall be maintained at all times as near normal as practicable so as to minimize inconvenience to the occupants of the abutting property and to the general public. Additionally, safe access shall be maintained through providing watchmen, signs, barricades, railings, and/or lights, as specified in the Caltrans "Manual of Warning Signs, Lights and Devices for Use in Performance of Work on Highways", or any other safety devices, necessary for the safe passage of any person or vehicle using the highway.

Town of Truckee General Plan

The Safety Element of the Town of Truckee 2025 General Plan is intended to protect the community to the extent possible against risks to life and property from local environmental hazards, and to empower local residents to be ready and responsive in the event of a natural disaster (Town of Truckee 2006). The following goals and policies from the Safety Element are applicable to the proposed program:

GOAL SAF-5: Protect the community from the harmful effects of hazardous materials.

- **Policy P5.1**: Continue to coordinate with the Nevada County Environmental Health Department in the review of all projects which require the use, storage or transport of hazardous waste to ensure necessary measures are taken to protect public health and safety.

- **Policy P5.3**: Support efforts to identify and remediate soils and groundwater contaminated with toxic materials, and to identify and eliminate sources contributing to such contamination.

GOAL SAF-6: Minimize risks associated with operations at the Truckee-Tahoe Airport.

- **Policy P6.1**: Maintain land use and development patterns in the vicinity of the Truckee-Tahoe Airport that are consistent with the adopted Comprehensive Airport Land Use Plan, including setbacks and height requirements.

Airport Land Use Compatibility Plans

Airport Land Use Compatibility Plans serve the following primary functions: (1) adopt land use standards that minimize the public's exposure to safety hazards and excessive levels of noise; (2) prevent the encroachment of incompatible land uses around public-use airports; and (3) define compatible land uses for noise, safety, airspace protection, and overflight in the areas around each public-use airport. Land areas within the City of Grass Valley, the Town of Truckee, and Nevada County are affected by the Nevada County and Truckee Tahoe ALUCPs, which were adopted by the Nevada County Airport Land Use Commission and Truckee Tahoe Land Use Commission, respectively (NCALUC 2011; TTALUC 2016). Applicable policies from these ALUCPs are identified in the following sections.

Nevada County Airport Land Use Compatibility Plan

The Nevada County ALUCP articulates procedures and criteria, established in accordance with the SAA, applicable to airport land use compatibility planning in the vicinity of Nevada County Airport, a public-use general aviation airport owned by Nevada County. Section 5.2 of the Nevada County ALUCP establishes land use safety compatibility criteria intended to minimize the risks associated with an off-airport aircraft accident or emergency landing. Section 5.2.5(d) addresses safety criteria associated with critical community infrastructure, which includes public communications facilities. As stated in Section 5.2.5(d), the construction of critical community infrastructure is restricted within *Compatibility Zone A*, which refers to the refers to the runway clear zone. Additionally, the construction of critical community infrastructure is restricted within *Compatibility Zones B1* and *B2* unless no other feasible alternative site exists and the facility is designed in a manner that minimizes its susceptibility to damage from an aircraft accident. *Compatibility Zones B1* and *B2* refer to the inner approach zone and sideline zone, respectively.

Truckee Tahoe Airport Land Use Compatibility Plan

As adopted by the Truckee Tahoe Airport Land Use Commission, the Truckee Tahoe ALUCP serves as a tool for use by the commission in fulfilling its duty to review airport and adjacent land use development proposals. Additionally, the plan sets compatibility criteria applicable to local agencies in their preparation or amendment of land use plans and ordinances and to landowners in their design of new development. Similar to the Nevada County ALUCP, Section 5.2 of the Truckee Tahoe ALUCP establishes land use safety compatibility criteria intended to minimize the risks associated with an off-airport aircraft accident or emergency landing. Section 5.2.3(d) addresses safety criteria associated with critical community infrastructure, including public communications facilities. As stated in Section 5.2.3(d), the construction of critical community infrastructure is restricted within *Compatibility Zone A* and within *Compatibility Zones B1* and *B2* unless no other feasible alternative site exists and the facility is designed in a manner that minimizes its susceptibility to damage from an aircraft accident.

Nevada County Community Wildfire Protection Plans

There are three comprehensive CWPPs for Nevada County, which cover the Truckee, North San Juan, and western Nevada County areas (Nevada County 2019). They are all similar in scope, with specific objectives designed to impact their regions. They are long term, strategic plans developed by Nevada County, in collaboration with local and state governmental stakeholders, as well as in consultation with federal agencies and other community members. These CWPPs describe wildfire hazards and prioritize hazardous fuel reduction treatments to protect at-risk communities and essential infrastructure in each region.

2019 Wildfire Preparedness Action Plan

The Wildfire Preparedness Action Plan for the county is intended to support and implement specific actions outlined by the state, NEU Regional Plan, and the three CWPPs in the county that have been developed by fire professionals and experts at the state, regional, and local levels (Nevada County 2019). These fire plans include detailed

approaches, projects, and recommendations of how local municipalities should address and prepare for wildfire hazards in their communities. The 2019 Wildfire Preparedness Action Plan is designed to effectively leverage County organizational and staff capabilities to implement the actionable strategies derived from the goals outlined in the other plans. The 2019 Wildfire Preparedness Action Plan empowers the County to act as a facilitator to bring local and regional wildfire stakeholders together to collaborate and coordinate on tactical actions that provide the most significant impact locally for up to 4 years. This plan is implemented by the County Office of Emergency Services and provides a direct response to the need for increased community education, communication, preparedness, and action in anticipation of the next extreme wildfire event.

3.7.2 Environmental Setting

For purposes of this section, the term "hazardous materials" refers to both hazardous substances and hazardous wastes. A "hazardous material" is defined in the CFR as "a substance or material that … is capable of posing an unreasonable risk to health, safety, and property when transported in commerce" (49 CFR 171.8). California Health and Safety Code Section 25501 defines a hazardous material as follows:

> "Hazardous material" means any material that, because of its quantity, concentration, or physical, or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous wastes" are defined in California Health and Safety Code Section 25141(b) as wastes that:

> … because of their quantity, concentration, or physical, chemical, or infectious characteristics, [may either] cause, or significantly contribute to an increase in mortality or an increase in serious illness [or] pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

PROGRAM AREA CONDITIONS

The exact alignments of future fiber projects are unknown at this time; however, the program area spans more than 2,000 miles along public and private roads and in previously disturbed and/or developed areas in Nevada County. The following data resources were reviewed to identify facilities or sites meeting the Cortese List requirements along roadways within Nevada County where installation of fiber optic lines could occur:

- List of Hazardous Waste and Substances sites from the DTSC's EnviroStor Database (DTSC 2022);
- List of Leaking Underground Storage Tank (LUST) sites from the SWRCB's GeoTracker Database (SWRCB 2021);
- List of solid waste disposal sites identified by the SWRCB with waste constituents above hazardous waste levels outside the waste management unit (CalEPA 2016a);
- List of active Cease and Desist Orders and Cleanup and Abatement Orders from the SWRCB (CalEPA 2016b); and
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the California Health and Safety Code, identified by DTSC (CalEPA 2022).

Numerous hazardous waste sites, including LUST cleanup sites, cleanup program sites, and DTSC cleanup sites, are present along roadways within the program area where installation of fiber optic lines could occur.

POTENTIAL FOR EXISTING CONTAMINATION

Aerially Deposited Lead

Leaded gasoline was used as a vehicle fuel in the United States from the 1920s until the late 1980s. Although lead is no longer used in gasoline formulations, lead emissions from automobiles, also referred to as aerially deposited lead (ADL), are a recognized source of contamination in soils along roadways. Surface and near-surface soils along heavily used roadways have the potential to contain elevated lead concentrations. According to the *Soil Management Agreement for Aerially Deposited Lead-Contaminated Soils* between the DTSC and Caltrans, the highest lead concentrations are usually found within 10 feet of the edge of the pavement and within the top 6 inches of the soil. In some cases, lead can be found as deep as 2 to 3 feet below the surface and can extend 20 feet or more from the edge of pavement (DTSC 2016). ADL may be present along public and private roadways where installation of fiber optic lines could occur.

Mine Waste

According to the Safety Element of the Nevada County General Plan, historic mining practices, processing techniques, and improper closures at hundreds of abandoned mine sites pose potentially hazardous conditions throughout Nevada County. The most common contaminants are associated with past mining activities, which include arsenic, lead, and mercury. Most notably, Lava Cap Mine is a federal Superfund site in Nevada County. This former gold mine is undergoing cleanup by EPA for arsenic contamination (Nevada County 2020). Contaminants associated with past mining activities may be present in soils or groundwater within the program area where installation of fiber optic lines could occur.

Agricultural Pesticides

Agricultural enterprises in Nevada County have historically stored, handled, and applied pesticides and herbicides. Some agricultural chemicals have the potential to remain in near-surface soils, depending on the concentrations and types used. Agricultural chemicals used before the 1970s often included highly persistent compounds, such as DDT, which has been banned from use. Inorganic compounds containing heavy metals, such as arsenic, lead, and mercury, commonly were used before the 1950s. Residual inorganic or organic components from chemicals commonly used in the past have the potential to persist in shallow soils for many decades. If present in elevated concentrations, these residues could pose a potential health risk to future construction workers and other persons who come in direct contact with surface soils.

Chemicals used in modern pesticides and herbicides are generally less persistent organic compounds. Because of stricter regulatory standards and product testing by EPA before commercial use, routine application of these materials does not generally result in accumulation to levels sufficient to cause concern. Typical concerns include (1) pesticide-handling areas that lack concrete pads, berms, or cribs to contain spills or leaks during handling and storage and (2) rinse water from washout facilities for pesticide-application equipment that has not been properly collected and treated before discharge. Equipment-repair and petroleum-storage areas also might be of concern. Agricultural pesticides may be present in soils along roadways where installation of fiber optic lines could occur.

AIRPORTS

Airports near the program area include the following:

- Nevada County Airport, a public airport located at 13083 John Bauer Avenue in the City of Grass Valley;
- Alta Sierra Airport, a privately owned airport located at 18575 Norlene Way in the City of Grass Valley; and
- Truckee Tahoe Airport, located at 10356 Truckee Airport Road in the Town of Truckee.

EVACUATION ROUTES

According to the Safety Element of the Nevada County General Plan, routes designated as interstates, freeways, highways, and other principal arterial routes are considered primary evacuation routes. Routes designated as minor arterial and major collector routes are considered secondary evacuation routes (Nevada County 2020).

WILDFIRE

A wildfire, or wildland fire, is a fire that can occur in an area of combustible vegetation, such as grasslands, forests, or brushlands. Wildfires can begin from various natural causes, such as lightning, as well as human-induced causes, such as discarded cigarettes, powerlines, sparks from equipment, campfires, and arson. Wildfires often begin unnoticed, spread quickly, and are usually signaled by dense smoke that may be visible from great distances.

Wildfire behavior is dependent on several factors that, when identified and assessed, can help determine future wildfire characteristics. The three factors listed below contribute significantly to wildfire behavior and can be used to identify wildfire hazard areas (Nevada County 2017):

- **Topography:** An area's terrain and land slopes affect its susceptibility to wildfire spread. Both fire intensity and rate of spread increase as slope increases because heat from a fire tends to rise through convection. The arrangement of vegetation throughout a hillside can also contribute to increased fire activity on slopes.
- **Fuel:** Fuel is the material that feeds a fire and is a key factor in wildfire behavior. Fuel is generally classified by type and by volume. Fuel sources are diverse and can include dead tree leaves, twigs, and branches of dead, standing trees; live trees; brush; and cured grasses. Buildings and other structures, such as homes and other associated combustibles, are also considered a fuel source. The type of prevalent fuel directly influences the behavior of wildfire. Fuel is the only factor that is under human control. Because of fire suppression, vegetation has accumulated in certain heavily fueled areas to the east and south of the town. The presence of these high-fuel hazards, coupled with a greater potential for ignitions, increases the susceptibility of the town to a catastrophic wildfire.
- **Weather:** Components such as temperature, relative humidity, wind, and occurrence of lightning affect the potential for wildfire. High temperatures and low relative humidity dry out fuels that feed wildfires, creating a situation where fuel will ignite more readily and burn more intensely. Thus, during periods of drought, the threat of wildfire increases. Wind is one of the most significant weather factors in the spread of wildfires. The greater a wind, the faster a fire will spread, and the more intense it will be. Wind direction can also play a role in the spread of wildfires. In addition to wind speed, wind shifts can occur suddenly as a result of temperature changes or the interaction of wind with topographical features, such as slopes or steep hillsides.

Wildfires can have serious and long-term effects on the local environment. In addition to removing vegetation and destroying forest resources, large, intense fires can harm the soil, waterways, and local water quality. Soil exposed to intense heat may lose its capacity to absorb moisture and support life. Exposed soils erode quickly and enhance siltation of rivers and streams, thereby enhancing flood potential, harming aquatic life, and degrading water quality. Lands stripped of vegetation are also subject to increased debris flow hazards. The more immediate effects of wildfires include decreased air quality in the areas where a wildfire occurs, which can cause serious health impacts on local populations.

As identified in the Nevada County Local Hazard Mitigation Plan, some key factors specific to Nevada County can contribute to wildfire risk within and the areas surrounding the town (Nevada County 2017). These include:

- overstocked forests, severely overgrown vegetation, and lack of defensible space around structures;
- excessive vegetation along roadsides and hanging over roads, fire engine access, and evacuation routes;
- drought and overstocked forests with increased beetle infestation or weakened and stressed trees; and
- nature and frequency of lightning ignitions;
- increasing population density, leading to more ignitions.

The specific weather conditions and ecosystem in the county contribute to wildfire risk. As further discussed under "Regional Hydrology" in Section 3.8, "Hydrology and Water Quality," climate in the Sierra Nevada and foothills varies based on elevation. Summers are generally dry with hotter temperatures in the western portion of the County. Winters are relatively wet with snow levels around 3,500 feet and sometimes as low as 1,000 feet. During non-drought years, the amount of precipitation can be very high, but El Niño and La Nina weather patterns, such as that experienced in winter 2015-2016, have the potential to result in annual precipitation rates that are much higher than normal. During periods of drought, the threat of wildfires increases. The Northern Sierra Nevada region continues to experience increases in average temperatures, changes in precipitation patterns, and significant loss in annual snowpack. As a result, the increased frequency and severity of droughts and decline in forest health are expected to increase wildfire risk within the region.

From May to October of each year, Nevada County faces a serious wildland fire threat. Fires will continue to occur on an annual basis in the county. The threat of wildfire and potential losses are increasing as human development and population increase and the wildland urban interface areas expand. Due to its high fuel load and long, dry summers, most of the county continues to be at risk from wildfire. When fire does return to the dense, dry forests of the county, they are more likely to burn uncharacteristically, at moderate and high intensity, rather than the historic low intensity level. The increased fuel accumulation results in greater flame lengths, more crown fires and greater resistance to control. Tree mortality is often high, even for the fire-resistant ponderosa pine and large Douglas firs. Soils, understory vegetation, and wildlife populations, which evolved with low intensity fires, are at risk of long-term damage from uncharacteristic fire intensity.

Climate Change and Wildfire

Wildfires are a significant threat in California and in Nevada County, particularly in recent years as the landscape responds to climate change and decades of fire suppression. It is estimated that since 1985, more than 50 percent of the increase in the area burned by wildfire in the western US is attributable to anthropogenic climate change (Abatzoglou and Williams 2016). As climate change persists, it will produce increasing temperatures and drier conditions that will generate abundant dry fuels. All wildfires (those initiated by natural and human sources) tend to be larger under drier atmospheric conditions and when fed by drier fuel sources (Balch et al. 2017).

Additionally, climate change has led to exacerbation of wildfire conditions during a longer period of the year as the spring season has warmed—driving an earlier spring snowmelt, and as winter precipitation has overall decreased (Westerling et al. 2006). Further, wildfire activity is closely related to temperature and drought conditions, and in recent decades, increasing drought frequency and warming temperatures have led to an increase in wildfire activity (Westerling et al. 2006, Schoennagel et al. 2017). In particular, the western US, including California, has seen increases in wildfire activity in terms of area burned, number of large fires, and fire season length (Westerling et al. 2006, Abatzoglou and Williams 2016).

Climate change will continue to produce conditions that facilitate a longer fire season, which, when coupled with human-caused changes in the seasonality of ignition sources, will produce more, longer, and bigger fires during more times of the year. According to California's Fourth Climate Change Assessment, *Statewide Summary Report* (2018), if GHG emissions continue to rise, the frequency of extreme wildfires burning over 25,000 acres could increase by 50 percent by 2100 and the average area burned statewide could increase by 77 percent by the end of the century (Bedsworth et al. 2018).

Wildfire History in Nevada County

Fire history plays a major role in assessing the potential for a future wildfire to affect a community. In the last approximately 10 years, the county has experienced several fires entirely or partially within the county boundary (Table 3.7-1).

Table 3.7-1 Wildfires in Nevada County (2013-2022)

Fire Name	Year	Total Acres
Tyler Fire	2013	52
Dog Bar Fire	2014	247
Boca Fire	2014	84
Hutto Fire	2014	38
Lowell Fire	2015	2,304
McCourtney Fire	2015	30
Auburn Fire	2016	47
Phoenix Fire	2016	38
Garden Fire	2017	19
Lobo Fire (Wind Complex)	2017	821
McCourtney Fire (Wind Complex)	2017	76
Pleasant Fire	2017	392
Greenhorn Fire	2017	15
Grizzly Fire	2017	10
Brewer Fire	2017	10
Oak Fire	2018	16
Long Fire	2019	2
Jones Fire	2020	705
Bennett Fire	2021	59
River Fire[a]	2021	2,619
Rices Fire	2022[b]	904

[a] The River Fire was located in Nevada and Placer Counties.

[b] Information available at the time this data was obtained only extended through July 5, 2022.

Source: CAL FIRE 2022a.

Wildfire Threat

PRC Sections 4201–4204 and Government Code Sections 51175–51189 directed CAL FIRE to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones, referred to as Fire Hazard Severity Zones (FHSZs), are represented as Very High, High, or Moderate. The classification of a zone as a Moderate, High, or Very High FHSZ is based on a combination of how a fire would behave and the probability that flames and embers would threaten buildings. Zone boundaries and hazard levels are determined based on vegetation. The maps are divided into local responsibility areas (LRAs) and SRAs. LRAs generally include cities, cultivated agricultural lands, and portions of the desert. LRA fire protection is typically provided by city fire departments, fire protection districts, counties, and CAL FIRE under contract to the local government. "State responsibility area" is a legal term defining the area where the state has financial responsibility for wildfire protection. Incorporated cities and areas under federal ownership are not included. The prevention and suppression of fires in all areas that are not SRAs are primarily the responsibility of federal or local agencies.

Much of the county is within Moderate, High, and Very High FHSZs (CAL FIRE 2022b). Almost all of Nevada City and large portions of the City of Grass Valley and Town of Truckee are located within Very High FHSZs.

Fire Protection Services

In the western portion of Nevada County, the following fire districts or departments provide fire protection services (Fire Safe Council of Nevada County 2016):

- Nevada County Consolidated Fire Department
- Grass Valley City Fire Department
- Nevada City Fire Department (contracts with Grass Valley City Fire Department for services)
- Higgins Fire Protection District
- Ophir Hill Fire Protection District
- Peardale-Chicago Park Fire Protection District
- Penn Valley Fire Protection District
- Rough & Ready Fire Protection District
- North San Juan Fire Protection District
- Washington County Water District

The Nevada County Consolidated Fire Department, Grass Valley Fire Department, and Nevada City Fire Department have developed a Joint Operating Agreement (JOA) to operate under a boundary drop/closest resource response plan, under which the closest fire engine to an incident will be dispatched or multiple engines can be dispatched for larger incidents, regardless of jurisdiction. The three agencies are the only departments in the county operating under this agreement. While the JOA satisfies the everyday operational needs of the three agencies, for significant incidents, the JOA still depends on automatic or mutual aid from other agencies in the area and reciprocates by assisting those agencies when requested (NCCFD n.d.). In addition, these local fire districts are active participants in local and statewide mutual aid and some are home to a California Emergency Management Agency engine that is routinely dispatched throughout the state to assist with major emergencies (Fire Safe Council of Nevada County 2016).

In eastern Nevada County, the Truckee Fire Protection District provides fire protection services for the Town of Truckee, unincorporated areas in eastern Nevada County, and portions of Placer County (Fire Safe Council of Nevada County 2016).

Nevada County is located within the Nevada-Yuba-Placer Unit of CAL FIRE. Several CAL FIRE stations are located in the western portion of the county and one CAL FIRE station is located at the Truckee Tahoe Airport in the eastern portion of the county (CAL FIRE 2019).

3.7.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

The following reports and data sources document potentially hazardous conditions in the program area and were reviewed for this analysis:

- available literature, including documents published by federal, state, County, and city agencies;
- applicable elements from the Nevada County General Plan, City of Grass Valley 2020 General Plan, Nevada City General Plan 1980-2000, and Town of Truckee 2025 General Plan; and
- databases maintained by the DTSC and SWRCB, listed in Section 3.7.2, "Environmental Setting," above.

Construction and operation activities associated with individual fiber projects were evaluated against the hazardous materials information gathered from these sources to determine whether any risks to public health and safety or other conflicts would occur.

THRESHOLDS OF SIGNIFICANCE

An impact related to hazards and hazardous materials is considered significant if implementation of the proposed program would result in any of the following:

- create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials into the environment;
- emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- 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;
- 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; or
- implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: Expose the Public or Environment to Hazards Because of the Routine Transport, Use, or Disposal of Hazardous Materials

Fiber installation projects would not require long-term storage, treatment, disposal, or transport of hazardous materials; however, small quantities of hazardous materials may be stored, used, and handled during installation. Accidental spills or an upset condition could result in a release of fuel or oils into the environment. However, because each project would be required to comply with existing federal, state, and local hazardous materials regulations, no significant hazards to the public or environment through the routine transport, use, and disposal of hazardous materials or from reasonably foreseeable upset and accident conditions would result. This impact would be **less than significant**.

The proposed program would not require long-term storage, treatment, disposal, or transport of hazardous materials; however, small quantities of hazardous materials may be stored, used, and handled during construction activities as part of the installation of fiber optic lines. These relatively small quantities would be below reporting requirements for hazardous materials business plans and would not be considered to pose public health and safety hazards through release of emissions. The hazardous materials anticipated to be used are small volumes of petroleum hydrocarbons and their derivatives (e.g., gasoline, oils, lubricants, and solvents) required to operate the construction equipment and bentonite for boring lubrication. These materials would generally be used by excavation equipment, generators, and other construction equipment and would be contained within vessels engineered for safe storage. Due to the rate of installation, storage of significant quantities of these materials at the construction site is not anticipated. Rather, tender vehicles would most likely provide fuel and lubricant to construction equipment on a daily basis and would be mobilized from an off-site location.

Spills during on-site fueling of equipment or an upset condition (i.e., puncture of a fuel tank through operator error or slope instability), could result in a release of fuel or oils into the environment, including sensitive waterways within the vicinity of the proposed activity. In addition, subsurface hazardous materials may be encountered during construction. Procedures regarding spill prevention and response, as well as proper handling and disposal of hazardous materials are established by federal, state, and local regulations.

As discussed in Section 3.7.2, "Environmental Setting," numerous hazardous waste sites are present along roadways within the program area where installation of fiber optic lines could occur. Therefore, the potential exists for contaminated soil or groundwater to be encountered during excavation activities for fiber optic line installation or during operational maintenance activities.

Hazards and hazardous materials are regulated by a number of federal, state, and local agencies, including OSHA, US Department of Transportation (USDOT), Cal/OSHA, DTSC, SWRCB, California Highway Patrol (CHP), Caltrans, and NCEHD. Regulations that would minimize potential hazards and hazardous materials impacts associated with the proposed program include:

- OSHA has adopted numerous regulations pertaining to worker safety, contained in Title 29 of the Code of Federal Regulations (29 CFR). These regulations set standards for safe workplaces and work practices, including standards relating to the handling of hazardous materials and those required for excavation and trenching.
- Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations in California. Cal/OSHA standards, which typically are more stringent than federal OSHA regulations, are presented in Title 8 of the California Code of Regulations (8 CCR). Cal/OSHA conducts on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices.
- Under the Resource Conservation and Recovery Act of 1976, DTSC has the authority to implement permitting, inspection, compliance, and corrective action programs to ensure that people who manage hazardous waste follow state and federal requirements. The Hazard Communication Standard defined in 29 CFR Part 1910 requires that workers be informed of the hazards associated with the materials they handle. USDOT has also developed regulations (10 CFR and 49 CFR) pertaining to the transport of hazardous substances and hazardous wastes by all modes of transportation.
- California has adopted USDOT regulations for the movement of hazardous materials originating within the state and passing through the state; state regulations are contained in 26 CCR. State agencies with primary responsibility for enforcing state regulations and responding to hazardous materials transportation emergencies are CHP and Caltrans. Together, these agencies determine container types used and license hazardous waste haulers to transport hazardous waste on public roads.
- The individual fiber projects would be required to comply with the Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ, as further described under Section 3.8.1, "Regulatory Setting," and under Impact 3.8-1 in Section 3.8, "Hydrology and Water Quality." The NPDES permit requires that permit registration documents be filed for construction projects with greater than 1 acre of disturbance. The documents must include a notice of intent and a storm water pollution prevention plan (SWPPP) that identifies proposed best management practices and includes a site-specific construction site monitoring and reporting plan developed by a Qualified SWPPP Developer. Although a major focus of the SWPPP is managing stormwater on the construction site, it also must address proper use and storage of hazardous materials, spill prevention and containment, and cleanup and reporting of any hazardous materials releases if they do occur.
- NCEHD is responsible for promoting a safe and healthy environment in the county and for enforcing hazardous waste laws and regulations at a local level. NCEHD, as the local CUPA, monitors the proper use, storage, and cleanup of hazardous materials; monitoring wells; removal of leaking USTs; and permits for the collection, transport, use, or disposal of refuse.

Project construction would also be required to implement and comply with federal, state, and local regulatory requirements summarized under Section 3.7.1, "Regulatory Setting," above and manufacturer's instructions related to hazardous materials to reduce the potential for exposure of the public or environment to hazards resulting from routine use, storage, or transport of hazardous materials or from accidental release or upset.

For any individual project that would disturb an area greater than 1 acre, a SWPPP (see Section 3.8, "Hydrology and Water Quality," and Impact 3.8-1) would be required to be prepared and implemented. Implementation of the SWPPP would minimize soil erosion and contain stormwater on-site for infiltration and/or treatment.

Because the level of use of hazardous materials in installation and operation of individual fiber projects would be typical for such utility uses, and because each project would be required to comply with existing federal, state, and local hazardous materials regulations, no significant hazards to the public or environment through the routine transport, use, and disposal of hazardous materials or from reasonably foreseeable upset and accident conditions would result. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.7-2: Cause Reasonably Foreseeable Upset and/or Accident Conditions or Be Located on a Hazardous Waste Site

Because numerous hazardous waste sites are present along roadways within the program area, contaminated soil or groundwater may be encountered during excavation activities for fiber optic line installation. Other contaminants associated with historic land uses, such as aerially deposited lead, organochlorinated pesticides, and mine waste, may be present in soils where fiber optic line installation would occur. If released to the environment, hazards to people or the environment would be a **potentially significant** impact.

As discussed in Section 3.7.2, "Environmental Setting," regulatory agencies including the DTSC and SWRCB maintain databases of known contaminated sites. These databases include information on LUSTs; hazardous waste generators; treatment, storage, and disposal facilities; sites known to have contaminated groundwater; and sites currently undergoing remediation or corrective action. Numerous hazardous waste sites are present along roadways where installation of fiber optic lines could occur.

Fiber installation projects would also involve ground disturbance in the upper layers of soils along existing roadways in the program area. Therefore, ADL may be present in soils along roadways where fiber optic line installation would occur. Additionally, fiber projects may involve ground disturbance in soils potentially contaminated from historic land uses, such as past mining and agricultural activities. Contaminants from these historic land uses may include organochlorinated pesticides and mine waste, such as elevated levels of arsenic, lead, and mercury. Fiber projects would not require building demolition; therefore, hazardous building materials such as lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyls are unlikely to be encountered during construction activities.

Although the exact locations of fiber optic line along roadways are not known at this time, installation and maintenance activities have potential to occur within the boundaries of a known hazardous waste site or in areas with existing soil or groundwater contamination. Therefore, excavation activities for fiber optic line installation or during operational maintenance activities could result in the accidental release of hazardous materials to the environment.

Due to the limited area of ground disturbance and short exposure window, the potential for construction activities to encounter hazardous conditions that could affect worker health or the environment would be limited. However, because the location of individual broadband projects relative to hazardous materials sites is unknown, there would be some potential for exposure of construction workers to hazardous materials contamination during construction.

If encountered, contaminated materials may be classified as a hazardous waste, a designated waste, or a special waste, depending on the type and degree of contamination. Disposal of excavated soils as standard demolition waste or use as fill for another construction site could result in a significant impact if those soils are contaminated. Disposal of materials in the vicinity of unknown but potentially present site contamination, including contamination with ADL, could pose a hazard to people or the environment. Refer to the discussion under Impact 3.7-1 above. This impact would be **potentially significant.**

Mitigation Measures

Mitigation Measure 3.7-2: Conduct Soil and Groundwater Sampling and Testing if Contamination is Suspected

Soil sampling shall be conducted in the project footprint before construction begins on or adjacent to hazardous waste sites identified on DTSC- and SWRCB-maintained databases of known contaminated sites. Soil information shall be provided to construction crews to inform them about soil conditions and potential hazards.

If hazardous substances are unexpectedly encountered during trenching, grading, or excavating work, work shall be stopped until the material is properly characterized and appropriate measures are taken to protect human health and the environment. If excavation of soil contaminated with hazardous materials is required, the materials shall be handled, transported, and disposed of in accordance with federal, state, and local regulations.

If suspected contaminated groundwater is encountered in the construction areas, samples shall be collected and submitted for analysis of petroleum hydrocarbons, metals, volatile organic compounds, and semi-volatile organic compounds. If necessary, groundwater shall be collected during construction, contained, and disposed of in accordance with federal, state, and local regulations.

Significance after Mitigation

To reduce potentially significant impacts, project proponents would implement Mitigation Measure 3.7-2, which requires sampling and testing of suspected contaminated soil or groundwater that is encountered during project construction. This measure would require regular monitoring and evaluation of soil conditions to ensure that any previously unknown contaminants encountered during construction would be evaluated quickly to determine potential hazards. With implementation of these measures, potentially hazardous conditions would be identified and remediated either prior to or immediately upon discovery, which would ensure that potential impacts associated with previously unknown contamination would be reduced to a **less-than-significant** level.

Impact 3.7-3: Emit or Handle Hazardous Materials, Substances, or Waste Within One-Quarter Mile of an Existing or Proposed School

Schools may be located within one-quarter mile of individual fiber project construction activities. While unlikely, fiber installation projects could result in accidental spills of fuel or oil, or expose contaminated soil or groundwater within one-quarter mile of an existing or proposed school. This impact would be **potentially significant**.

Multiple elementary, middle, and high schools in the County are located near roadways. Some of these schools may be located within one-quarter mile of proposed fiber installation activities. As discussed under Impact 3.7-1, individual fiber installers would be required to comply with existing USDOT, Cal/OSHA, DTSC, SWRCB, CHP, Caltrans, and NCEHD regulations that would minimize potential hazards and hazardous materials impacts. However, due to the anticipated use of vehicle fuels, oils, and other vehicle maintenance fluids on-site during construction, the potential exists for a hazardous material spill or accident to occur, which could expose sensitive receptors to accidentally released hazardous materials, substances, or waste. Additionally, contaminated soil or groundwater may be encountered during excavation activities for fiber optic line installation or maintenance activities and released in proximity to an existing school. Therefore, construction-related impacts near schools would be **potentially significant.**

Mitigation Measures

Mitigation Measure 3.7-3: Implement Mitigation Measure 3.7-2

Significance after Mitigation

To reduce potentially significant impacts, each project proponent would implement Mitigation Measure 3.7-3, which requires preparation of a Phase I ESA for each individual broadband project. Mitigation Measure 3.7-3 would ensure that areas of potential soil and groundwater contamination are identified and remediated prior to excavation activities, such that contaminated soils or groundwater would not be accidentally released within one-quarter mile of an existing or proposed school. Because program activities would be conducted in accordance with the state and

federal regulations described in Section 3.7.1, "Regulatory Setting," and in compliance with Mitigation Measure 3.7-3, potential impacts would be reduced to **less than significant**.

Impact 3.7-4: Airport Safety Hazard or Excessive Noise

The proposed program may require installation and maintenance activities within two miles of an airport. No aboveground structures tall enough to interfere with airport operations or permanent structures for human occupancy are proposed. Workers would only be present within a given area for brief periods (e.g., a few hours per day) and would not be exposed to excessive noise levels. Therefore, impacts related to airport safety hazards and excessive noise would be **less than significant**.

The proposed program would involve the installation of fiber optic lines along various roadways throughout the county. Although the specific roadways are not known at this time, the program area could include roadways within 2 miles of an airport.

The program involves the installation of fiber optic lines below ground surface in most areas, but could also involve aboveground installation on existing or new utility poles in areas where buried fiber is infeasible. Aboveground structures would likely be located in rocky areas, areas with steep slopes, and challenging water crossings. Furthermore, the Nevada County and Truckee Tahoe ALUCPs would restrict the construction of aboveground utility lines and poles in areas where these structures could interfere with airport operations. Specifically, aboveground structures would not be permitted within *Compatibility Zones A* (runway clear zone), *B1* (inner approach zone), and *B2* (sideline zone) of any airport, as established in the Nevada County and Truckee Tahoe ALUCPs. Additionally, the aboveground structures would range between 50 and 100 feet and, thus, would not be tall enough to interfere with airport operations or require filing notice with the FAA (i.e., would not exceed 200 feet in height). Therefore, the program would not pose a safety hazard with regard to airport operations.

The program would not include permanent structures for human occupancy. As discussed in Section 3.9, "Noise," the program would not locate any new sensitive receptors near any airports. Workers would be present for installation and maintenance activities; however, workers would only be within a given area for brief periods (e.g., a few hours per day). Therefore, the program would not result in the exposure of sensitive receptors to excessive aircraft-related noise levels.

Based on the above discussion, fiber installation projects would not result in safety hazards or excessive noise related to airports for people residing or working in the individual broadband project areas. Impacts would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.7-5: Interfere with an Adopted Emergency Response or Evacuation Plan

Project construction activities may require temporary lane closures, which have the potential to impede or interfere with emergency access routes or services. Although closures would occur in coordination with local agencies, lane closures could still interfere with traffic circulation during emergencies and disrupt access to private properties and roadways. Individual fiber projects that would encroach on Nevada County, City of Grass Valley, Nevada City, or Town of Truckee roadway rights-of-way would implement traffic safety measures to maintain access along these roads as required by the encroachment permit and municipal code requirements of the applicable jurisdiction. This impact would be **less than significant**.

As discussed under Impact 3.7-1 and 3.7-2, each fiber project would be required to comply with various federal, state, and local regulations to minimize the potential for emergencies, such as procedures to follow in the event of accidental spills or other releases of hazardous materials into the environment. Compliance with these regulations would ensure that on-site emergencies are addressed quickly and efficiently, and in cooperation with local emergency services providers.

Construction and maintenance activities may require temporary lane closures, which have the potential to impede or interfere with emergency access routes or services. Coordination with local agencies (e.g., California Highway Patrol, Caltrans, and local police and fire departments) for any necessary and temporary road closures would be required, especially for construction within designated emergency access routes or in areas that would impede or otherwise affect evacuation and emergency access or services. To minimize or avoid lane closures that could interfere with traffic circulation during emergencies and disrupt access to private properties and roadways, each individual fiber project would be required to develop and implement traffic control measures consistent with the encroachment permit and code requirements of Nevada County, the City of Grass Valley, Nevada City, or Town of Truckee. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.7-6: Expose People or Structures, Either Directly or Indirectly, to a Significant Risk of Loss, Injury, or Death Involving Wildland Fires

Installation of new fiber optic cable would involve activities that could result in a temporary increase in risk for wildfires by increasing sources of ignition through use of vehicles and equipment in the vicinity of dry fuel and from certain worker behaviors. This, in turn, could increase the risk of exposing project occupants and structures to a significant risk of loss, injury, or death involving wildland fires. Operation of the new fiber optic lines would involve minimal maintenance and the lines are not a source of heat or combustion. Therefore, they would not increase the risk of wildland fires in the area. While the potential may be remote, wildfire resulting from construction activities or worker behavior would be **potentially significant**.

Nevada County contains areas classified as Moderate, High, and Very High FHSZs (CAL FIRE 2022). Like any construction project in a fire-prone area (based on an area's fire history, type and density of vegetation, topography, and other characteristics), equipment and vehicles used during construction of individual fiber projects along roadways could result in a temporary increase in risk for wildfires by increasing sources of ignition (e.g., hot surfaces, sparks, frictional heat) in the vicinity of dry fuel along roadways or other fiber routes. In addition, certain worker behavior, such as smoking and disposing of cigarettes, or parking vehicles on dry vegetation during construction, could create sparks and ignite a fire.

Operation of the new fiber optic lines would involve minimal maintenance and the lines are not a source of heat or combustion. Operation, therefore, would not increase the risk of wildland fires in the area. No new facilities would be constructed that would exacerbate existing fire risk.

While the potential may be remote, wildfire resulting from construction activities or worker behavior would be a **potentially significant** impact.

Mitigation Measures

Mitigation Measure 3.7-6: Fire Prevention and Cessation

The construction contractors for individual fiber projects shall implement the following measures for all construction activities to prevent and address wildfires:

- Train and brief all construction workers on fire prevention and suppression methods, including requirements for carrying emergency fire suppression equipment on the project site.
- Construction "tailgate meetings" shall be held daily, prior to construction and cover the following topics: fire safety, smoking restrictions, idling vehicles, and restricting construction during red flag warnings.
- No construction work will occur during times of high fire threat, and if conditions change after commencing construction, work will cease in periods of extreme fire danger, such as red flag warnings issued by the National Weather Service or other severe fire weather conditions as identified by Nevada County.

Significance after Mitigation

Mitigation Measure 3.7-6 would ensure that the on-site personnel during construction are made aware of fire prevention and safety practices and that accurate responses to fire emergencies occur. Implementation of Mitigation Measure 3.7-6 would reduce impacts related to wildland fire exposure to **less-than-significant** levels.

CUMULATIVE IMPACTS

The cumulative setting for hazards and hazardous materials impacts includes roadways where installation and maintenance of fiber optic cables may occur. Cumulative effects related to hazards and hazardous materials are discussed in the following sections.

Release of Hazardous Materials into the Environment

Within the cumulative setting, there are numerous land uses associated with the past and present handling, transport, disposal, accidental release, and remediation of hazardous materials. These activities are regulated by federal, state, and local agencies, which have minimized risks to public health and the environment throughout the county.

The cumulative projects listed in Table 3.1-2 include development projects, transportation projects, recreation/trails projects, and public works projects. These types of projects generally require temporary construction activities that may result in the accidental release of hazardous materials into the environment. In addition, new commercial and industrial developments that utilize hazardous materials or generate hazardous waste could increase the potential for the release of hazardous materials into the environment.

Although some hazardous materials releases can cover a large area and interact with other releases (e.g., atmospheric contamination, contamination of groundwater aquifers), incidents of hazardous materials contamination are more typically isolated to a small geographic area. These relatively isolated areas of contamination typically do not combine in a cumulative manner with other sites of hazardous materials contamination. Furthermore, all projects would be implemented in compliance with federal, state, and local hazardous materials regulations, limiting the potential for releases and contamination and requiring clean-up when such events occurred.

Similarly, releases of hazardous materials from the proposed program would generally be site-specific and are not expected to combine in a cumulative manner. As described in Impacts 3.7-1 to 3.7-3, the proposed program would be subject to the same federal, state, and local regulations governing the handling, storage, transport, disposal, and accidental release of hazardous materials. Furthermore, Mitigation Measure 3.7-2 would ensure that hazards to the public and the environment from accidental spills or disturbance of contaminated soils and groundwater would be further reduced. In combination with past, present, and reasonably foreseeable projects discussed above, the proposed program would not result in a significant impact on the cumulative setting with respect to the release of hazardous materials into the environment.

Airport and Airspace Hazards

The cumulative setting includes the airport influence areas for the Nevada County and Truckee Tahoe Airports. These airport influence areas are governed by the Nevada County and Truckee Tahoe ALUCPs, respectively (NCALUC 2011; TTALUC 2016). As discussed in Section 3.7, "Hazards and Hazardous Materials," ALUCPs serve the following primary functions: (1) adopt land use standards that minimize the public's exposure to safety hazards and excessive levels of noise; (2) prevent the encroachment of incompatible land uses around public-use airports; and (3) define compatible land uses for noise, safety, airspace protection, and overflight in the areas around each public-use airport.

The cumulative projects listed in Table 3.1-2 include development projects, transportation projects, recreation/trails projects, and public works projects. Impacts associated with airport safety hazards are typically site-specific and would not combine in a cumulative manner. Furthermore, all development within the airport influence areas of the Nevada County and Truckee Tahoe Airports would be subject to the requirements of the applicable ALUCP. This process ensures that development near airports is compatible with the applicable ALUCP, such that project occupants would not be exposed to airport safety hazards or excessive aircraft noise. Therefore, the proposed program, in

combination with past, present, and reasonably foreseeable projects, would not result in a significant impact on the cumulative setting with respect to airport safety hazards.

Interference with Implementation of Emergency Response and Evacuation Plans

The cumulative setting includes roadways that are designated as primary and secondary evacuation routes. Emergency response on these routes is guided by the Nevada County Emergency Operations Plan (Nevada County 2011).

The cumulative projects listed in Table 3.1-2 include roadway, trail, vegetation management, and public works projects. Cumulative impacts could result if simultaneous construction projects would require substantial road closures or substantially increase vehicle traffic from construction-related trips. The cumulative projects are dispersed throughout the county and it is unlikely that all construction activities would occur simultaneously. The additional vehicles associated with construction of a few of these projects at one time would not result in a substantial number of vehicles that would result in physical interference with implementation of an emergency response plan or evacuation plan. In addition, construction of these projects would not substantially increase the time it takes to evacuate the area because none of these projects would involve hauling a substantial number of materials over a brief period of time such that a sudden influx of haul truck traffic would occur. Furthermore, temporary road or lane closures associated with construction activities would require coordination with local agencies (e.g., California Highway Patrol, Caltrans, and local police and fire departments), especially for activities that may cross or impede emergency access routes or services. Similar to the individual fiber projects, these cumulative projects would also be required to obtain encroachment permits and implement traffic safety plans to maintain traffic flow along roadways. The cumulative project list in Table 3.1-2 also includes a number of bridge improvement projects and other roadway improvement projects that would improve emergency and evacuation access.

The proposed program would not result in development that would generate new vehicle trips that could result in long-term effects on emergency response and evacuation routes and would not result in any permanent changes to access and circulation along emergency evacuation routes. In addition, where construction of individual fiber projects could affect roadway travel or safety, those projects would be required to obtain encroachment permits and implement traffic safety plans consistent with the requirements of the applicable jurisdiction to maintain traffic flow along roadways. Program operations would not contribute to substantial new vehicle trips in the region, other than vehicle trips for the occasional, as-needed servicing and maintenance of fiber optic lines. These vehicle trips would not measurably increase traffic in the region, and thus would not interfere with emergency response and evacuation plans. Therefore, the program, in combination with past, present, and reasonably foreseeable projects, would not result in a significant impact on the cumulative setting with respect to emergency response and evacuation plans.

Exposure of People or Structures to a Significant Risk of Loss, Injury, or Death Involving Wildland Fires

Implementation of the proposed program would result in a potentially significant impact from the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires. Nevada County contains large areas of high and very high FHSZs and cumulative development throughout the county would similarly be exposed to and would exacerbate wildfire risk and wildfire-related adverse effects.

Implementation of state and local plans for prioritizing hazardous fuel reduction treatments and compliance with state and federal law would reduce fire hazard risks associated with cumulative projects to the extent feasible. Additionally, the Egress/Ingress Fire Safety Project and Roadside Vegetation Abatement Project identified in Table 3.1-2 would remove roadside vegetation to reduce wildfire fuels along roadways and thereby reducing cumulative impacts associated with exposure to significant risk from wildfire and development and related activities that might exacerbate the risk of fire with various adverse outcomes. Cumulative projects would likely be required to implement measures to reduce wildfire risk similar to those identified for the individual fiber projects under the proposed program to reduce wildfire risk during construction (see Mitigation Measure 3.7-6). Because of implementation of the projects countywide that would reduce vegetation along roadways and the proposed program's implementation of Mitigation Measure 3.7-6, implementation of the proposed program would not have an

incremental contribution to a cumulatively significant wildfire impact, and this impact would have a less than cumulatively considerable impact related to wildfire hazards.

Summary

Based on the discussion above, the proposed program, in combination with past, present, and reasonably foreseeable projects, would not result in a significant impact on the cumulative setting with respect to hazards and hazardous materials. Therefore, the proposed program would have a **less than cumulatively considerable impact** related to hazards and hazardous materials.

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3.8 HYDROLOGY AND WATER QUALITY

This section evaluates potential water quality and hydrology impacts that could result from implementation of the proposed Nevada County Broadband Program. The study area for hydrology and water quality is defined as those water resources that could be affected directly or indirectly by installation of individual fiber projects, which includes surface waters and groundwater basins in the vicinity of the construction activities. Information in this section comes from Nevada County GIS mapping analysis; Town of Truckee, City of Grass Valley, Nevada City, and Nevada County General Plans; other relevant documents; as well as applicable federal, state, and local regulations.

3.8.1 Regulatory Setting

FEDERAL

Clean Water Act

The US Environmental Protection Agency (EPA) is the lead federal agency responsible for water quality management. The Clean Water Act (CWA) is the primary federal law that governs and authorizes water quality control activities by EPA as well as the states. Various elements of the CWA address water quality. These are discussed below.

CWA Water Quality Criteria/Standards

Pursuant to federal law, EPA has published water quality regulations under Title 40 of the Code of Federal Regulations (CFR). Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States. As defined by the act, water quality standards consist of designated beneficial uses of the water body in question and criteria that protect the designated uses. Section 304(a) requires EPA to publish advisory water quality criteria that accurately reflect the latest scientific knowledge on the kind and extent of all effects on health and welfare that may be expected from the presence of pollutants in water. Where multiple uses exist, water quality standards must protect the most sensitive use. As described in the discussion of state regulations below, the State Water Resources Control Board (SWRCB) and its nine regional water quality control boards (RWQCBs) have designated authority in California to identify beneficial uses and adopt applicable water quality objectives.

CWA Section 303(d) Impaired Waters List

Under Section 303(d) of the CWA, states are required to develop lists of water bodies that do not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of the pollutant that the water body can receive and still comply with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. In California, implementation of TMDLs is achieved through water quality control plans, known as Basin Plans, of the State RWQCBs. See "State Plans, Policies, Regulations, and Laws," below.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit program was established in the CWA to regulate municipal and industrial discharges to surface waters of the United States. NPDES permit regulations have been established for broad categories of discharges including point source waste discharges and nonpoint source stormwater runoff. Each NPDES permit identifies limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits.

"Nonpoint source" pollution originates over a wide area rather than from a definable point. Nonpoint source pollution often enters receiving water in the form of surface runoff and is not conveyed by way of pipelines or discrete conveyances. Two types of nonpoint source discharges are controlled by the NPDES program: discharges caused by general construction activities and the general quality of stormwater in municipal stormwater systems. The

goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving waters to the maximum extent practicable. The RWQCBs in California are responsible for implementing the NPDES permit system (see the discussion of State plans, policies, regulations, and laws, below).

STATE

California Porter-Cologne Act

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the SWRCB and each of the nine RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Clean Water Act. Nevada County spans the crest of the Sierra Nevada, a major watershed boundary and the boundary between the Central Valley RWQCB to the west and the Lahontan RWQCB to the east. The SWRCB, the Central Valley RWQCB, and the Lahontan RWQCB have the authority and responsibility to adopt plans and policies, regulate discharges to surface and groundwater, regulate waste disposal sites, and require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substances, sewage, or oil or petroleum products.

Under the Porter-Cologne Act, each RWQCB must formulate and adopt a water quality control plan (known as a "Basin Plan") for its region. The Basin Plan for the Central Valley and Lahontan Regions include a comprehensive list of waterbodies within the region and detailed language about the components of applicable Water Quality Objectives (WQOs). The Basin Plans recognize natural water quality, existing and potential beneficial uses, and water quality problems associated with human activities throughout their jurisdictions. Through the Basin Plans, the RWQCBs execute their regulatory authority to enforce the implementation of TMDLs, and to ensure compliance with surface WQOs. The Basin Plans include both narrative, and numerical WQOs designed to provide protection for all designated and potential beneficial uses in all its principal streams and tributaries. Applicable beneficial uses include municipal and domestic water supply, irrigation, non-contact and contact water recreation, groundwater recharge, freshwater replenishment, hydroelectric power generation, and preservation and enhancement of wildlife, fish, and other aquatic resources.

The Central Valley and Lahontan RWQCBs also administer the adoption of waste discharge requirements (WDRs), manage groundwater quality, and adopt projects within their respective boundaries under the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Permit).

NPDES Construction General Permit for Stormwater Discharges Associated with Construction Activity

The SWRCB adopted the statewide NPDES General Permit in August 1999. The state requires that projects disturbing more than 1 acre of land during construction file a Notice of Intent with the RWQCB to be covered under this permit. Construction activities subject to the General Permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non stormwater discharges to storm sewer systems and other waters. A stormwater pollution prevention plan (SWPPP) must be developed and implemented for each site covered by the permit. The SWPPP must include best management practices (BMPs) designed to prevent construction pollutants from contacting stormwater and keep products of erosion from moving off-site into receiving waters throughout the construction and life of the project; the BMPs must address source control and, if necessary, pollutant control.

California Water Code

The California Water Code is enforced by the California Department of Water Resources (DWR). The mission of DWR is "to manage the water resources of California in cooperation with other agencies, to benefit the State's people, and to protect, restore, and enhance the natural and human environments." DWR is responsible for promoting California's general welfare by ensuring beneficial water use and development statewide.

Groundwater Management

Groundwater Management is outlined in the California Water Code, Division 6, Part 2.75, Chapters 1-5, Sections 10750 through 10755.4. The Groundwater Management Act was first introduced in 1992 as Assembly Bill (AB) 3030, and has since been modified by Senate Bill (SB) 1938 in 2002, AB 359 in 2011, and the Sustainable Groundwater Management Act (SB 1168, SB 1319, and AB 1739) in 2014. The intent of the Acts is to encourage local agencies to work cooperatively to manage groundwater resources within their jurisdictions and to provide a methodology for developing a Groundwater Management Plan.

The Sustainable Groundwater Management Act of 2014 (SGMA) became law on January 1, 2015, and applies to all groundwater basins in the state (Water Code Section 10720.3). By enacting the SGMA, the legislature intended to provide local agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater within their jurisdiction (Water Code Section 10720.1).

Pursuant to the SGMA, any local agency that has water supply, water management or land use responsibilities within a groundwater basin may elect to be a "groundwater sustainability agency" for that basin (Water Code Section 10723). The Truckee Donner Public Utility District, Northstar Community Services District, Placer County Water Agency, Town of Truckee, Nevada County and Placer County are the local SGMA agencies in the Martis Valley Groundwater Basin (MVGB), the only groundwater basin in the program area.

LOCAL

Nevada County General Plan

The Open Space, Water, and Soil chapters of the Nevada County General Plan (Nevada County 1995 [amended in 2008, 2010, 2014]) include goals, objectives, and policies that address hydrology and water quality. The relevant goals, objectives, and policies are listed below.

GOAL 11.1: Identify, protect and manage for sustainable water resources and riparian habitats.

Objective 11.2: Preserve surface and sub-surface water quality and, where feasible, improve such quality.

- **Policy 11.4:** Cooperate with State and local agencies in efforts to identify and reduce to acceptable levels all sources of existing and potential point- and non-point-source pollution to ground and surface waters, including leaking fuel tanks, discharges from storm drains, auto dismantling and dump sites, sanitary waste systems, parking lots, roadways, logging and mining operations.

Objective 11.3: Preserve and, where economically feasible, restore the density and diversity of water-dependent species and continuous riparian habitats based on sound ecological principles.

Objective 11.4: Preserve the integrity and minimize the disruption of watersheds and identified critical water courses.

- **Policy 11.9B:** Require new utilities, critical facilities and non-essential public structures to be located outside the 100-year flood plain unless such facilities are necessary to serve existing uses, there is no other feasible location, and construction of these structures will not increase hazards to life or property within or adjacent to the floodplains.

GOAL 12.1: Minimize adverse impacts of grading activities, loss of soils and soil productivity.

Objective 12.1: Minimize earth movement and disturbance.

- **Policy 12.1:** Enforce Grading Ordinance provisions for erosion control on all new development projects by adopting provisions for ongoing monitoring of project grading. Project site inspection shall be required prior to initial site disturbance and grading to ensure all necessary control measures, including proper staking and tree protection measures, are in place. The installation, maintenance, and performance of erosion and sedimentation control measures shall be monitored by County or District staff (or their designee) and completely funded by a project applicant. All County projects shall comply with this policy.

- **Policy 12.3:** Cooperate and encourage those activities dealing with techniques and practices to minimize erosion in cooperation with Nevada County Resource Conservation District, including provision of educational materials for the general public regarding techniques and practices to minimize erosion from construction activities.

Objective 12.2: Minimize erosion due to road construction and maintenance.

- **Policy 12.4:** Require erosion control measures as an element of all County contracts, discretionary projects, and ministerial projects.
- **Policy 12.5:** Encourage the efforts of the Resource Conservation District and other related agencies to educate and assist the general public about techniques and practices to minimize private road maintenance related erosion.

Objective 12.3: Minimize vegetation removal.

Nevada County Code of Ordinances

The Nevada County Grading Code contains the following sections relevant to hydrology and water quality:

- **Section L-V 13.14:** Erosion Control requires projects to be designed with long-term erosion and sediment control as a primary consideration. Any project requiring a grading permit is required to produce an erosion and sediment control plan.
- **Section L-XII 1.5:** Provisions for Flood Hazard Reduction required proposed development to have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.

City of Grass Valley General Plan

The City of Grass Valley 2020 General Plan (City of Grass Valley 1999) Conservation/Open Space Element includes several goals, objectives, and policies that address hydrology and water quality. The relevant goals, objectives, and policies are listed below.

GOAL 2-COSG: Protect, enhance and restore hydrologic features, including stream corridors, flood plains, wetlands and riparian zones.

- **Policy 8-COSO:** Minimize interference with the natural functions of flood plains and naturally flood-prone areas

GOAL 6-COSG: Assure compliance with and understanding of air and water quality regulations and standards.

- **Policy 15-COSO:** Protection of ground- and surface water quality.
- **Policy 16-COSO:** Inclusion of air and water quality considerations in land use decisions rendered by the Planning Commission and City Council.

City of Grass Valley Code of Ordinances

The City of Grass Valley Code contains the following sections relevant to hydrology and water quality:

- **Section 12.06.110:** requires compliance with the NPDES stormwater discharge permit.
- **Section 12.06.120:** requires the prevention, control, and reduction stormwater pollutants. Any construction contractor performing work in the city shall implement appropriate BMPs to prevent the discharge of construction wastes or contaminants from construction materials, tools, and equipment from entering the storm drain system or watercourses. All construction plans and applications for building permits and grading permits shall consider the potential for erosion and sedimentation at the construction site, and shall include appropriate erosion and sedimentation controls. Appropriate controls shall be determined in accordance with the guidance provided in the California Stormwater Quality Association (CASQA) Stormwater Best Management Practice Handbook and city improvement standards and may include site planning considerations, construction staging and timing, and installation of temporary detention ponds or other treatment facilities. If required, a stormwater management plan and maintenance agreement shall be prepared and submitted for approval and acceptance.

- **Section 12.06.150:** requires the protection of watercourses protection by keeping them reasonably free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse.

Nevada City General Plan

The Nevada City General Plan (Nevada City 1986 [amended in 2008, 2009, 2014]) includes the Public Safety Element that identifies the following objectives and policies related to hydrology and water quality that would be applicable to the program.

Water Quality Objective: Protect and improve quality of both surface water and groundwater.

- **Policy:** Encourage programs to reduce erosion and sedimentation.

Nevada City Code of Ordinances

The Nevada City Code includes the following chapters related to hydrology and water quality:

- Chapter 17.80.100 – Discusses grading and erosion control measures in addition to the those in the California Building Code, and requires that a grading plan be approved by the building department in certain circumstances, the city engineer shall also have authority to approve grading plans. Grading is to be limited to All grading the dry season of the year, between May 1 and October 15, unless the written permission is given. During the wet season (October 16 and April 30, or as amended by the city), all grading is required to include temporary or permanent erosion control measures, as necessary to prevent soil erosion from the site. Erosion control shall include any and/or all effective methods generally accepted as normal practice, such as fertilization and seeding, straw mulch, jute netting, earthen berms, straw barricades, plastic sheeting, holding basins and flow dissipators. Lastly, this chapter provides the city has the authority to review all temporary and permanent erosion control measures, and may require additional measures.
- Chapter 20.08.040 – Methods of reducing flood losses establishes a master plan of drainage which identifies all sources of flooding affecting the City and all drainage patterns; establishes drainage area boundaries; establishes engineering criteria and standards for regulation of development and design of drainage improvements including detention facilities, restricting or prohibiting uses which are dangerous to health, safety, and property due to flood, erosion or sedimentation, or which result in damaging increases in erosion or in flood heights or velocities; requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction; controlling the alteration of natural floodplains, stream channels and natural protective barriers, which help accommodate or channel flood waters and sediment; and where development will alter the surface of the ground so as to increase the rate and volume of runoff, constructing storm runoff detention facilities in accordance with the master plan; controlling filling, grading and other development which may increase flood damage; regulating the construction of flood barriers which will divert flood waters and sediment or which may increase flood hazards in other areas, including regulating the design of highways so as to prevent the collection and concentration of flow on the alluvial cone.

Town of Truckee General Plan

The Town of Truckee General Plan (Town of Truckee 2006) Land Use Element and Conservation and Open Space Element include objectives and policies related to hydrology and water quality. The following goals and policies are applicable to the program.

GOAL LU-4: Coordinate land development with provision of services and infrastructure.

- **Policy P4.5:** Require new infrastructure and development to be designed and built to manage stormwater runoff and to minimize or eliminate harmful impacts to property prone to flooding, water quality, and riparian, wetland, and meadow habitats. When infrastructure is replaced or retrofitted, require the upgrading of stormwater management systems to minimize or eliminate these impacts.

GOAL COS-11: Protect water quality and quantity in creeks, lakes, natural drainages, and groundwater basins.

- Policy P11.1: Minimize excessive paving that negatively impacts surface water runoff and groundwater recharge rates.
- Policy P11.2: Protect surface and groundwater resources from contamination from runoff containing pollutants and sediment, through implementation of the Regional Water Quality Control Board's (RWQCB) Lahontan Region's, Best Management Practices.
- Policy P11.3: Cooperate with State and local agencies in efforts to identify and eliminate all sources of existing and potential point and non-point sources of pollution to ground and surface waters, including leaking fuel tanks, discharges from storm drains, auto dismantling, dump sites, sanitary waste systems, parking lots, roadways, and logging and mining operations.
- Policy P11.6: Utilize Low Impact Development and Best Management Practices established in the Regional Water Quality Control Board's Truckee River Hydrologic Unit Project Guidelines for Erosion Control, and the State of California Stormwater Best Management Practices Handbooks, and other resources such as the Practice of Low Impact Development (US Department of Housing and Urban Development) and Water Quality Model Code and Guidebook (State of Oregon, Department of Land Conservation and Development) as guidelines for water quality and erosion control measures required by the Town.
- Policy P11.9: Recognize the importance of stormwater management in protecting all water resources in Truckee, for example, flood control, surface and groundwater quality, and river, stream, and lake health.

GOAL COS-12: Protect the Town's soil resources from erosion.

- Policy P12.2: Require projects that require earthwork and grading, including cuts and fills for roads, to incorporate measures to minimize erosion and sedimentation. Typical measures include project design that conforms with natural contours and site topography, maximizing retention of natural vegetation, and implementing erosion control Best Management Practices.

Town of Truckee Development Code

Chapter 11.01 Stormwater Quality Chapter prohibits illicit discharges to the storm drain system, establishes authority to adopt requirements for stormwater management, including source control requirements, to reduce pollution to the maximum extent practicable, establishes authority to adopt requirements for municipal operations to reduce stormwater pollution and erosion to the maximum extent practicable, establishes authority to adopt requirements for public and private development projects to reduce stormwater pollution and erosion both during construction and after the project is complete, establishes authority that will enable the Town to implement and enforce all requirements of the State Water Resource Control Board Water Quality Order No. 2013-0001-DWQ.

Chapter 11.03 Adoption of Best Management Practices reduces of pollutants in stormwater by establishing Best Management Practices requirements.

Chapter 11.04 Requirements for Construction, Development, and Redevelopment Activities Section 11.04.010 Construction Activities requires any person performing construction work within the Town disturbing soil or rock shall demonstrate compliance with the Town of Truckee Development Code and implement appropriate BMPs to prevent the discharge from the site of soil, construction wastes, or debris, including contaminants from construction materials, tools, and equipment to the stormwater drainage system or Waters of the State. Such terms, conditions, and requirements may include, but are not limited to, requirements consistent with CASQA's Construction, New and Redevelopment, and Industrial/Commercial Best Management Practice Manuals, and requirements for erosion and sediment controls, soil stabilization, dewatering, source controls, pollution prevention measures and illicit discharges.

3.8.2 Environmental Setting

HYDROLOGY AND DRAINAGE

Regional Hydrology

Climate in the Sierra Nevada and foothills varies based on elevation. Summers are generally dry with hotter temperatures in the western portion of the County. Winters are relatively wet with snow levels around 3,500 feet and sometimes as low as 1,000 feet. In the eastern portion of Nevada County at the Boca California weather station, average maximum temperatures occur in July at 84.1 degrees Fahrenheit (°F) and average minimum temperatures are lowest in January averaging 11.7 °F (WRCC 2022). The area receives 22.38 inches average annual precipitation mostly in October through April (WRCC 2022). In the western portion of Nevada County, at the Grass Valley weather station, average maximum temperatures occur in August at 91.1 °F and average minimum temperatures are lowest in January averaging 32.5 °F (WRCC 2022). The area receives 54.94 inches average annual precipitation mostly during October through April (WRCC 2022). Many rivers of the Sierra Nevada have been disturbed by humans, especially from the hydraulic mining of the gold mining era. Water management structures have since come to dominate the flows of water from the Sierra Nevada. Few river systems in the range have natural flow regimes over much of their length (Kattelmann 1996).

Local Hydrology

There are three major watersheds in Nevada County. The Truckee River, in the eastern portion of the county drains approximately 170 square miles and flows from Lake Tahoe to Pyramid Lake in Nevada; and the Yuba River and Bear River in the western portion of the county (Nevada County 1995). The South and Middle Forks of the Yuba River make up the largest of the three water sheds. The Middle Fork of the Yuba River drains approximately 86 square miles of Nevada County and flows into the Englebright Reservoir. The South Fork drains approximately 343 square miles of the county before connecting with the Middle Fork near Englebright Reservoir. The Bear River watershed forms just below Spaulding Reservoir and drains approximately 277 square miles of the county (Figure 3.8-1). Sierra Nevada snowpack is the primary source of water for all of these watersheds. The seasonal and annual flows vary depending on rain, which occurs mostly November through February, and snow, with the snowmelt related peak from April to June. Within all parts of the county, there is an extensive network of perennial (year-round) and intermittent (seasonal) creeks, streams, and rivers, ranging in size from the South Yuba River to small, unnamed seasonal drainages. Wetlands in Nevada County are generally small, isolated features dependent on riparian water, Nevada Irrigation District (NID) ditch leaks or overflows, diversions by agricultural operations or natural seeps or springs. The wetlands of the county are not well mapped but are located throughout the program area.

Stormwater Drainage

The developed portions of Nevada County include storm drain infrastructure that collect and covey stormwater to infiltration systems or drainages. The City of Grass Valley has mapped all drainage inlets and pipes that are managed by the City (City of Grass Valley n.d.). Nevada County has standard storm drain design criteria which are required for all new road construction. The Town of Truckee has a stormwater management program intended to reduce pollution in stormwater runoff. The program includes an outfall map that shows locations of all waters of the US that receive discharges from those outfalls (Town of Truckee 2007). Unincorporated portions of the county generally do not have a formalized storm drain network and stormwater follows the topography.

Flood Conditions

Areas susceptible to flood hazard are relatively limited in the county and are generally confined to the areas adjacent to the county's rivers and streams (Nevada County 1995). Generally, there are no significant wide flood plains. Squirrel Creek in Penn Valley has a wider flood potential area than other streams within the county; however, it is still not as wide, in comparison with other locations in the State. The major flooding problems in Nevada County normally occur during the winter months from November through April. Localized flooding can be severe when the ground is already saturated or existing snow is melted by warmer rains. Dam failure can also cause flooding. There are eight dams located within Nevada County rated as having an "extremely high" downstream hazard potential (expected to

cause considerable loss of human life), five rated as having a "high" downstream hazard potential (expected to cause loss of at least one human life); and six rated as having a "significant" downstream hazard potential (no loss of human life but could cause economic loss, environmental damage, or other impacts) (Nevada County 1995). There are populations that live within the dam inundation zones, particularly Upper or Lower Scott's Flat Dams.

Groundwater Hydrology

The groundwater resources in the county differ by region. Groundwater in the western part of the county is characterized as poorly defined and variable (Nevada County 1995). The highly fractured characteristics of the subsurface geology, as well as a variety of other factors such as soil depth and percolation, combine to create highly variable and inconsistent groundwater characteristics. Unincorporated areas of Nevada County, including the western portion of the County not receiving water supply from NID, rely on private wells or small water systems in small, confined groundwater reservoirs (NID 2021; Nevada County 2022). Data for individual wells available through the DWR Well Completion Reports Map Application indicates that many groundwater wells for domestic use have been constructed throughout western Nevada County, further indicating the presence of groundwater throughout this area (DWR 2022a). In eastern Nevada County, the Martis Valley aquifer is the primary subsurface hydrologic resource. The Martis Valley Groundwater Basin is located east of the crest of the Sierra Nevada has a depth of more than 1,000 feet and a surface depth below the surface of less than 60 feet. Shallower groundwater depths occur near streams (Huntington et al. 2013). The primary aquifers in the Martis Basin are interbedded volcanic lavas, volcanic sediments, and glacial outwash sediments (USGS and SWRCB 2012).

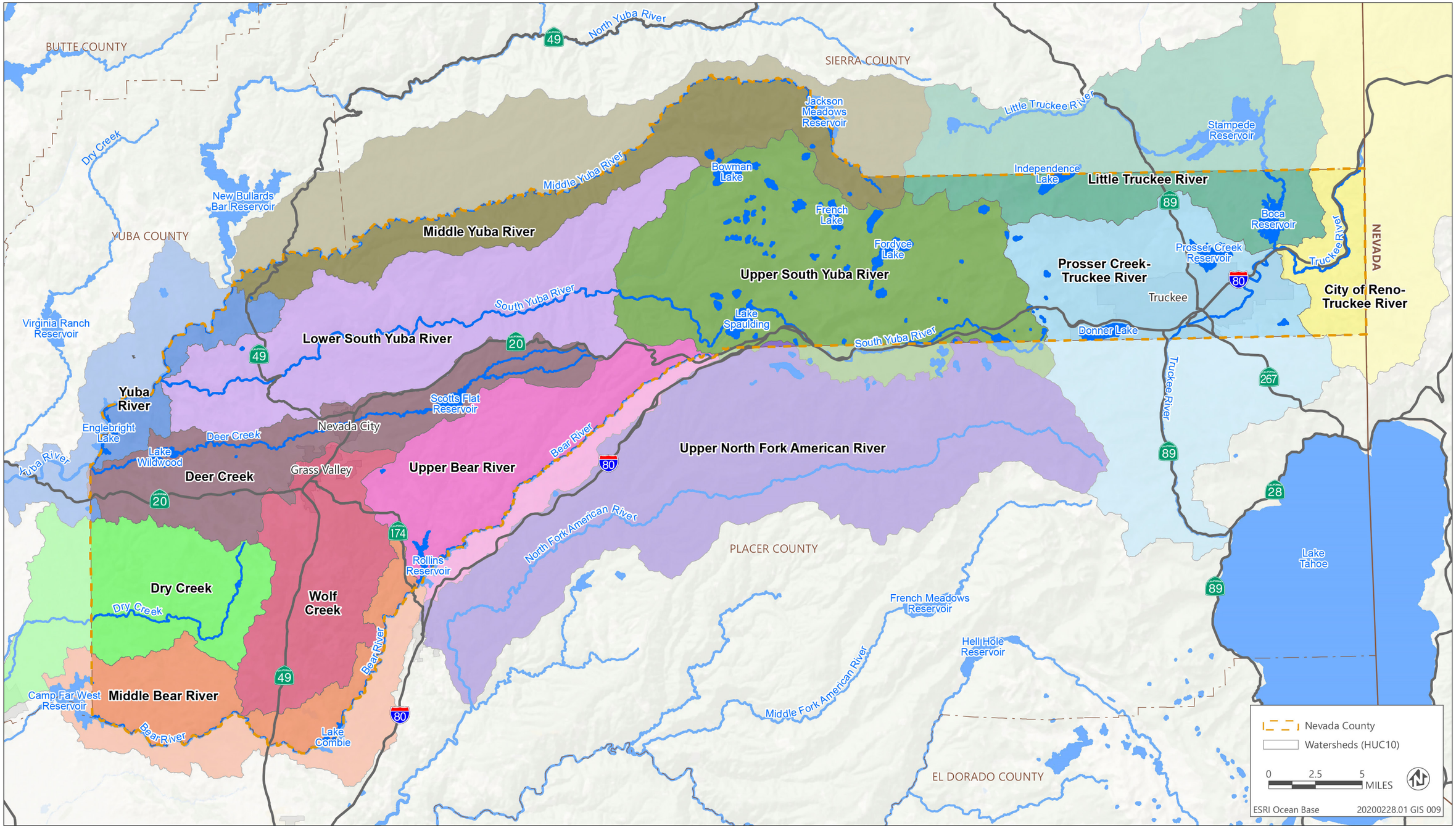
WATER QUALITY

Surface Water Quality

The quality of surface waters in Nevada County varies from very good water quality in the more mountainous, less-developed areas, and poorer water quality in the lower elevations where development increases. Water quality impacts in the upper elevations occur as a result of recreational and logging uses, while the lower elevations are affected by land development, mining, grazing and urban runoff. Soil erosion and sedimentation are closely tied to surface water quality. Naturally occurring elements such as heavy metals, have also contributed to water quality degradation in a number of areas within the western county. There are several waterbodies in Nevada County that are impaired according to Section 303 (d) of the Clean Water Act. Donner Lake is impaired by organic compounds, the South Fork of the Yuba River is impaired by metals and temperature, and the Middle Fork of the Yuba River is impaired by metals. Deer Creek and Bear River are also impaired by metals. Wolf Creek, a tributary to Bear River, is impaired by E Coli and enterococcus. Rollins Reservoir and Scotts Flat Reservoir, Wildwood Lake, and Englebright Lake are impaired by metals (SWRCB 2022).

Groundwater Quality

Groundwater quality can be affected by many things, but the chief controls on the characteristics of groundwater quality are the source and chemical composition of recharge water, properties of the host sediment, and history of discharge or leakage of pollutants. Arsenic from natural sources affects groundwater quality in the Martis Groundwater Basin (USGS 2012).



Source: Data downloaded from USGS in 2020; adapted by Ascent in 2022.

Figure 3.8-1 Watersheds (HUC10) in Nevada County

3.8.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

Evaluation of potential hydrologic and water quality impacts is based on a review of existing documents and studies that address water resources in the county. Information obtained from these sources was reviewed and summarized to describe existing conditions and to identify potential environmental effects, based on the standards of significance presented in this section. In determining the level of significance, the analysis assumes that the program, and individual fiber projects implemented under it, would comply with relevant federal, state, and local laws, ordinances, and regulations.

THRESHOLDS OF SIGNIFICANCE

An impact on hydrology or water quality is considered significant if implementation of the program would do any of the following:

- violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;
- substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the program may impede sustainable groundwater management of the basin;
- substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would:
  - result in substantial erosion or siltation on- or off-site;
  - result in flooding on- or off-site;
  - create or contribute runoff water that would exceed the capacity of existing or planned stormwater- drainage systems or provide substantial additional sources of polluted runoff;
  - impede or redirect flood flows;
- in flood hazard, tsunami, or seiche zones, risk release of pollutants due to inundation; and/or
- conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: Violate any Water Quality Standards, Waste Discharge Requirements, Water Quality Control Plan or Otherwise Substantially Degrade Surface or Groundwater Quality

Implementation of the proposed program would disturb soil during construction increasing the potential for erosion that could degrade surface or groundwater quality. Construction equipment has the potential to leak gasoline, diesel fuel, engine oil, and hydraulic fluid that could affect surface and groundwater quality. Additionally, drilling fluids could seep or spill into nearby water bodies, which could affect ground and surface water quality. Surface water and groundwater resources vary throughout the county. Due to the shallow nature of the broadband conduit, groundwater would not likely be affected by the program. The program would not require work in any wetlands or Waters of the US or State. With adherence to the NPDES Construction General Permit and all Town, City, and County codes, the program would not cause substantial erosion or adversely affect water quality from fluids from construction equipment. Though unlikely, the use of drilling fluids during directional boring beneath streams could result in frac-out, or the seepage of drilling fluid from the boring into the surface water. This impact would be potentially significant.

Implementation of individual fiber projects would disturb soil during construction, which could increase the potential for erosion and degrade surface or groundwater quality. There is an extensive network of perennial (year-round) and intermittent (seasonal) creeks, streams, and rivers, ranging in size from the South Yuba River to small, unnamed seasonal drainages. Groundwater resources vary throughout the program area with poorly defined and variable groundwater characteristics throughout the western portion of the county and the Martis Valley groundwater basin in the eastern portion of the county.

Fiber installation projects would avoid direct impacts to wetlands and sensitive aquatic resources, but fiber optic line installation activities would occur adjacent to or underneath (in the case of directional drilling) aquatic resources. Soil disturbance would be caused by trenching, boring entrance and exit pits, excavation for vault placement, holes for pole placement, and construction of associated infrastructure. The program could develop approximately 2,200 miles of new fiber-based infrastructure throughout the program area. Each access box excavated by backhoe would be either 36 inches by 60 inches or 24 inches by 36 inches, and would extend to 48 inches below ground surface. Access boxes (vaults) would be placed at intervals of not more than 3,000 feet along a proposed route for an individual project.

The fiber optic line installation process could result in substantial soil disturbance. Projects that disturb 1 or more acres of soil or where projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. The Construction General Permit requires the development and implementation of a SWPPP. The SWPPP specifies BMPs intended to minimize construction related pollutants from contacting stormwater or receiving waters. Construction equipment has the potential to leak gasoline and diesel fuel, engine oil, and hydraulic fluid which could impact surface and groundwater quality. The SWPPP also requires that construction equipment be maintained and kept in good operating conditions to reduce the likelihood of unintentional spills. If a spill is detected, spill areas would be cleaned to pre-spill conditions, as practicable. If projects are under 1 acre, they would be required to comply with Nevada County Code (Sections G-IX 1.3 and L-V 13.14), Nevada City (Chapter 17.80.100), City of Grass Valley Code (Section 12.06.120 and Section 12.06.150), or Town of Truckee Code (Chapter 11.01, 11.03, and 11.04), which require BMPs to prevent erosion and prevent spills. Examples of BMPs that Nevada County requires in their Conditional Approvals are to limit work near streams to dry weather, locate staging and spoil areas a minimum of 30 feet away from streams, minimize disturbance and preserve vegetation, install sediment controls, remove accumulated sediment, prevent accidental pollution, remove debris, grade to minimize erosion, install erosion control measures, apply mulch to bare soil, and maintain measures. With adherence to the NPDES Construction General Permit and all Town, City, and County Codes, the water quality impacts due erosion and fluids during construction

would not violate any water quality standards, waste discharge requirements, water quality control plans (Basin Plan for the Central Valley and Lahontan Regions), or degrade surface or groundwater quality.

One of the construction methods to cross streams would include installing facilities under streams via directional bore. The depth of a bore would be at least 15 feet below the sensitive resource being avoided, including streambed alluvium, and this depth may increase based on site-specific conditions and on recommendations from regulatory agencies. Drilling fluid is used to lubricate the bore and help remove cuttings from the bore hole. Although unlikely, the drilling fluid mixture could seep to the surface (an incident known as "frac-out") within a stream channel if bores encounter fractures in the underlying rock and drilling fluid pressures are great enough to push the fluid through the fractures. Operators control pressure by watching for flow out of exit pits and if the exit pit pressure or flow drops, work is stopped immediately to address frac out potential. Additionally, drilling fluid could be spilled into water bodies from a leak in the fluid circulation system.

Compliance with City, Town, and County Codes as well as the Construction General Permit would preclude adverse water quality effects associated with construction-related erosion and spills. Water quality impacts associated with the use of drilling fluid under streams would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.8-1: Implement Drilling Fluid Seepage and Spill Prevention Measures

Drilling fluid containment and cleanup equipment (e.g., certified weed-free bales, silt fencing, and portable pumps) will be present for use in the work area where there is a potential for frac-out or spills of drilling fluid. BMPs will be installed between the bore site and any flowing stream or wetland to prevent the mixture from entering the stream or wetland. Spill areas will be restored to pre-spill conditions, as practicable, and spill documentation and reporting will be carried out.

Portable pumps will be kept on-site to control seepage to the surface and to prevent the mixture from entering streams or wetlands. If the mixture seeps to the surface in the stream or wetland channel, a pump will be used to pump it back to the drill site. If a release occurs at a high-risk boring location, the stream flow will be immediately dammed and flumed, and the bentonite will be contained and removed.

At locations where boring is taking place adjacent to streams or wetlands, damming and flume materials will be pre-staged. During directional boring activities near streams or wetlands, construction crews will visually monitor bentonite flow and returns so that fluid loss can be identified before the material surfaces in the stream channel and promptly stop work if there is a detection of any bentonite or construction material release. If a spill is detected in a flowing channel, wetland, or other sensitive resource area, drilling will cease immediately, and spill prevention and control measures will be immediately employed to safely contain and remove the spilled materials. Concurrent with implementation of the containment measures, construction crews will contact the appropriate resource agency personnel, as indicated on local, state, or federal permits.

Significance after Mitigation

Because fiber projects would be primarily installed in public or private roads, in previously disturbed and/or developed areas, in existing conduit, and on new or existing utility poles where subsurface installation is infeasible, installation beneath creeks or streams would be relatively rare. In addition, because drilling techniques are implemented to preclude frac-out (e.g., through drilling at an appropriate pace and depth) and to immediately detect potential frac-out (e.g., by watching for flow out of exit pits and monitoring exit pit pressure), such incidents are rarer still. The low potential for occurrence, combined with mitigation measures (BMPs) designed to contain a potential spill and to have equipment at the ready to minimize, secure, and clean up a potential spill, would render this impact **less than significant**.

Impact 3.8-2: Substantially Decrease Groundwater Supplies, Interfere Substantially with Groundwater Recharge, or Obstruct Implementation of a Groundwater Management Plan Such That the Project May Impede Sustainable Groundwater Management of the Basin

Groundwater in Nevada County is limited. The only mapped groundwater basin in Nevada County is the Martis Valley Groundwater Basin in the eastern portion of Nevada County; however, many areas and residents within the western portion of the county receive their water supply from private groundwater wells with poorly defined and variable groundwater characteristics. Fiber conduit would be installed at a depth of 48 inches and depth to groundwater in the Martis Valley ranges in average from 20 to 107 meters (Huntington et al. 2013). The conduit would not impede infiltration of snow melt or stormwater. If localized high groundwater were to occur in the program area, the trench would be dewatered into a vacuum truck and disposed of where permitted. Implementation of the proposed program would not decrease groundwater supply or impede recharge, nor would it affect implementation of a groundwater management plan. The impact would be **less than significant**.

Groundwater in the western part of the county is characterized as poorly defined and variable due to the highly fractured characteristics of the subsurface geology, as well as a variety of other factors such as soil depth and percolation (Nevada County 1995). However, there are many areas and residents within the western portion of the county that receive their water supply from private groundwater wells (NID 2021; Nevada County 2022). In eastern Nevada County, the Martis Valley groundwater basin is the primary subsurface hydrologic resource. Fiber conduit is typically installed at depths shallower than 2 meters and depth to groundwater in the Martis Valley ranges from 20 to 107 meters (Huntington et al. 2013). Therefore, the broadband cable installation is not expected to intercept groundwater. If localized high groundwater were to occur at or near a project site for an individual fiber project (e.g., some portions of the western part of the county), the trench would be dewatered into a vacuum truck and disposed of where permitted. Localized dewatering would be limited and would not substantially decrease groundwater supply in the County because of the relatively short duration of construction activities that occur in a linear fashion. The fiber conduit is relatively small at 2 inches in diameter and therefore would not affect groundwater recharge from infiltration of stormwater or snowmelt.

The Truckee Donner Public Utility District, Northstar Community Services District, Placer County Water Agency, Town of Truckee, Nevada County, and Placer County are the local SGMA agencies in the MVGB, the only groundwater basin in the program area. These agencies created the Martis Valley Groundwater Management Plan in 2013 with the following goals (Truckee Donner PUD et al. 2013):

- Manage groundwater to maintain established and planned uses.
- Manage groundwater use within the provisions of the Truckee River Operating Agreement
- Collaborate and cooperate with groundwater users and stakeholders in the MVGB.
- Protect groundwater quantity and quality.
- Pursue and use the best available science and technology to inform the decision-making process.
- Consider the environment and participate in the stewardship of groundwater resources.

Implementation of fiber projects would not obstruct implementation of the Groundwater Management Plan for the reasons described under Impact 3.8-1 and discussed above. Potential impacts on groundwater supplies groundwater recharge, or implementation of a groundwater management plan would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.8-3: Substantially Alter the Drainage Pattern of the Program Area Such That it Would Result in Substantial Erosion, Flooding, or Excessive Runoff

Above ground changes associated with the program would be limited to poles with overhead line in areas where undergrounding the fiber conduit would be infeasible. Because most of the infrastructure would be installed underground or consist of isolated small diameter poles, implementation of fiber projects would not change drainage patterns or cause flooding or excessive runoff. Individual fiber installation projects would be required to comply with City, Town, and County Codes as well as the NPDES Construction General Permit, which would prevent substantial erosion. Impacts relative to erosion, flooding, and excessive runoff would be **less than significant**.

Implementation of fiber projects would not alter permanent drainage patterns of surface waters in the county because the fiber conduit would be installed mostly underground. After installation, any trenches or pits would be backfilled to pre-disturbance conditions. Where subsurface installation is infeasible, the fiber optic line would be hung aerially on poles. The poles would be installed at intervals and of small diameter. Therefore, there would be no permanent change in drainage patterns or cause increased flooding or runoff. As discussed in Impact 3.8-1, individual fiber installation projects would be required to comply with regulations that prevent substantial erosion. Projects that disturb one or more acres of soil or where projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction Activities (Construction General Permit), Construction General Permit Order No. 2009-009-DWQ. The Construction General Permit requires the development and implementation of a SWPPP. The SWPPP specifies BMPs intended to minimize construction related pollutants from contacting stormwater or receiving waters. The SWPPP also requires that construction equipment be maintained and kept in good operating conditions to reduce the likelihood of unintentional spills. If a spill is detected, spill areas would be cleaned to pre-spill conditions, as practicable. If projects are under 1 acre, they would be required to comply with Nevada County (Sections G-IX 1.3 and L-V 13.14), Nevada City (Chapter 17.80.100), City of Grass Valley (Section 12.06.120 and Section 12.06.150), or Town of Truckee Code (Chapter 11.01, 11.03, and 11.04), which require BMPs to prevent erosion. The proposed program's impact on drainage patterns and erosion, flooding, or excessive runoff would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.8-4: Risk Release of Pollutants due to Inundation from a Seiche or Flood

There are a large number of lakes and reservoirs in Nevada County that could experience seiche and dam failure. During construction, isolated areas within the county could be exposed to inundation from seiche or dam failure, but the likelihood of the program area and the flood zone overlapping would be minimal due to the small project area of individual fiber projects and temporary nature of the individual projects. The impact would be **less than significant**.

Dam failure flooding can occur as the result of partial or complete collapse of an impoundment, which can cause high velocity flooding of those properties downstream of the dam. There are eight dams located within Nevada County rated as having an extremely high downstream hazard potential (expected to cause considerable loss of human life), five rated as having a high downstream hazard potential (expected to cause loss of at least one human life); and six rated as having a significant downstream hazard potential (no loss of human life but could cause economic loss, environmental damage, or other impacts) (Nevada County 1995). The dams with inundation maps designated as having an extremely high or high downstream hazard in Nevada County include Lake Angela, Lake Fordyce, Lake Spaulding, Bowman Jackson Meadows, Scotts Flat, Anthony House, Deer Creek Diversion, Loma Rica Diversion, Swan, Magnolia, and Combie (DWR 2022b). Donner Lake was rated as "extremely high" in the Nevada County General Plan but only rated "significant" by DWR. If construction of an individual fiber project were to be taking place in a dam inundation zone and such a failure occurred, there could be a release of sediment and other pollutants. Due to the limited area of each individual fiber project, the risk of pollutants released from a project implemented under the proposed program would be minimal compared with the large-scale destruction caused by

such a flood. Once construction is complete, there would be no risk of pollutant release due to implementation of the program.

Because of the large number of recreational lakes and reservoirs in Nevada County, seismically induced seiche could occur, but would still be extremely rare. A small portion of the program area would be located near lakes and reservoirs that could be impacted by seiche. Due to the limited area of each individual fiber project, the risk of pollutants released from isolated fiber-optic projects would be minimal compared with the large-scale destruction caused by such a wave. Once project construction is complete, there would be no risk of pollutant release.

Due to the temporary and relatively small construction project areas of individual fiber projects, risk of release of pollutants from dam failure or seiche would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

CUMULATIVE IMPACTS

Cumulative hydrological and water quality impacts are considered in a watershed context. A cumulative impact is a result of the combination of implementation of the proposed program evaluated together with other projects/programs causing related impacts. The cumulative projects listed in Table 3.1-2 would result in potential construction impacts related to hydrology and water quality similar to those of the proposed program. The cumulative projects and the proposed program would be required to comply with applicable City, Town, and County regulations and the California Construction General Permit, which would minimize or avoid contributions to potential cumulative hydrology and water quality impacts. Additionally, the hydrology and water quality impacts of the proposed program would be primarily related to temporary construction activities. Additionally, as applicable, individual fiber projects would be required to implement Mitigation Measure 3.8-1 to address potential impacts related to drilling fluid seepage into waterways. Because regulations are in place to protect hydrology and water quality within Nevada County, the combined cumulative impact associated with the program's incremental effect and the effects of other cumulative projects would not be significant. Therefore, implementation of the program **would have a less than cumulatively considerable impact** for hydrology and water quality.

3.9 NOISE

This section includes a summary of applicable regulations related to noise, a description of ambient-noise conditions, and an analysis of potential short-term construction noise impacts associated with the proposed program. Mitigation measures are recommended as necessary to reduce significant noise impacts. Additional data is provided in Appendix C, "Noise Modeling Calculations."

No environmental issues related to noise were raised during public scoping.

Operational activity associated with the proposed program would be limited to inspection and maintenance on an as-needed basis, which would require accessing the vaults and fiber optic line. These activities would be temporary, intermittent, and conducted using a minimal number of vehicles consistent with vehicle types currently using the existing roadways (e.g., light-duty trucks). Therefore, the program would not result in the generation of a substantial permanent increase in ambient noise levels associated with operational noise sources (i.e., traffic or stationary) in the vicinity of the program; and thus, would not expose sensitive receptors to excessive long-term operational noise. This issue is not discussed further.

Vibration is the periodic oscillation of a medium or object with respect to a given reference point. Sources of vibration include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) and those introduced by human activity (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous, (e.g., operating factory machinery) or transient in nature (e.g., explosions). Vibration levels can be depicted in terms of amplitude and frequency, relative to displacement, velocity, or acceleration. Operation of the program would not result in any new long-term operational sources of ground vibration. Additionally, program operation would not result in major sources of noise vibration and would not locate any new sensitive receptors near existing major sources of vibration. Some ground vibration would be generated during program construction; however, no blasting, pile driving, or use of other vibration intensive sources would occur during construction of the program. Therefore, the proposed program would not expose people to or generate excessive groundborne vibration levels such that any receptors would be adversely affected. This issue is not discussed further.

The following airports are located within Nevada County: Truckee Tahoe Airport, Nevada County Airport, and Alta Sierra Airport. No other airports are located within 2 miles of the county boundary. The program would primarily consist of construction activity related to fiber optic installation and routine inspection and maintenance of installed fiber on a long-term basis. Therefore, the program would not locate any new sensitive receptors near an airport or otherwise expose sensitive receptors to excessive aircraft-related noise levels. This issue is not discussed further.

3.9.1 Regulatory Setting

FEDERAL

US Environmental Protection Agency Office of Noise Abatement and Control

The US Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at more local levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to state and local governments. However, documents and research completed by the EPA Office of Noise Abatement and Control continue to provide value in the analysis of noise effects.

STATE

California General Plan Guidelines

The State of California General Plan Guidelines 2017, published by the California Governor's Office of Planning and Research (OPR) (2017), provides guidance for the compatibility of projects within areas of specific noise exposure.

Acceptable and unacceptable community noise exposure limits for various land use categories have been determined to help guide new land use decisions in California communities. In many local jurisdictions, these guidelines are used to derive local noise standards and guidance. Citing EPA materials and the state sound transmission control standards, the state's general plan guidelines recommend interior and exterior CNEL standards of 45 and 60 decibels (dB) for residential units, respectively (OPR 2017: 378).

LOCAL

Nevada County

Municipal Code

Section L-II 4.1.7 Noise

D. Noise Standards. All land use projects requiring a Development Permit or a Use Permit shall comply with the noise standards provided herein. Permitted residential land uses, including parcel and tentative maps, are not subject to these standards.

Table 3.9-1 Nevada County Exterior Noise Limits

Land Use Category	Zoning Districts	Time Period		Noise Level, dBA	
		Start	End	L_{eq}	L_{max}
Rural	A1, TPZ, AE, OS, FR, IDR	7:00 a.m.	7:00 p.m.	55	75
		7:00 p.m.	10:00 p.m.	50	65
		10:00 p.m.	7:00 a.m.	40	55
Residential and Public	RA, R1, R2, R3, P	7:00 a.m.	7:00 p.m.	55	75
		7:00 p.m.	10:00 p.m.	50	65
		10:00 p.m.	7:00 a.m.	45	60
Commercial and Recreation	C1, CH, CS, C2, C3, OP, REC	7:00 a.m.	7:00 p.m.	70	90
		7:00 p.m.	7:00 a.m.	65	75
Business Park	BP	7:00 a.m.	7:00 p.m.	65	85
		7:00 p.m.	7:00 a.m.	60	70
Industrial	M1, M2	any time		80	90

Notes: dBA = decibels; L_{eq} = Equivalent Continuous Sound Level; L_{max} = Maximum Sound Level.
Source: Nevada County Municipal Code (Section L-II 4.1.7).

8. The above standards shall not apply to those activities associated with the actual construction of a project or to those projects associated with the provision of emergency services or functions.

General Plan

The Nevada County General Plan (Nevada County 1995 [amended in 2008, 2010, 2014]) addresses noise within the Noise Element. The noise-related policy applicable to the program includes:

- **Policy 9.1.2:** The noise standards contained in Table 3.9-1, as performance standards and land use compatibility standards, shall apply to all discretionary and ministerial projects excluding permitted residential (including tentative maps) land uses.

F. The above standards shall not apply to those activities associated with the actual construction of a project or to those projects associated with the provision of emergency services or functions.

City of Grass Valley

Municipal Code

Chapter 8, "Health and Safety," of the City of Grass Valley Municipal Code includes the City of Grass Valley's noise ordinance. The regulations applicable to the program include:

Section 8.28.020 - General Noise Regulations

A. It is unlawful to willfully make or continue a loud, unnecessary, or unusual noise which disturbs the peace or quiet of a neighborhood or which causes discomfort or annoyance to an entire community or neighborhood or any considerable number of reasonable persons of normal sensitivity residing in the area.

B. The standards to be considered in determining whether a violation of this section exists include, but are not limited to:

1. The volume of the noise;
2. The intensity of the noise;
3. Whether the nature of the noise is usual or unusual;
4. Whether the origin of the noise is natural or unusual;
5. The volume and intensity of the background noise, if any;
6. The proximity of the noise to residential sleeping facilities;
7. The nature and zoning of the area within which the noise emanates;
8. The density of the inhabitation of the area within which the noise emanates;
9. The time of day or night the noise occurs;
10. The duration of the noise;
11. Whether the noise is recurrent, intermittent, or constant; and
12. Whether the noise is produced by commercial or noncommercial activity.

Section 8.28.060 - Ambient noise level

Where the ambient noise level is less than designated in this section, the respective noise levels in the section shall govern. Table 3.9-2 identifies the city's ambient noise level standards.

Table 3.9-2 City of Grass Valley Ambient Noise Level Standards

Decibels	Time	Zone
45 dBA	8:00 p.m. to 7:00 a.m.	Residential
55 dBA	7:00 a.m. to 8:00 p.m.	Residential
65 dBA	Anytime	Commercial
70 dBA	Anytime	All other zones

Source: City of Grass Valley 2021.

Section 8.28.100 - Construction projects

It is unlawful within a residential zone, or within a radius of 500 feet of a residential zone, to operate equipment or perform outside construction or repair work on a building, structure, or project or to operate a pile driver, steam shovel, pneumatic hammer, derrick, steam or electric hoist, or construction type device between the hours of 7:00 p.m. of 1 day and 7:00 a.m. of the next day or on a Sunday or legal holiday in such a manner that a reasonable person of normal sensitivity residing in the area is caused discomfort or annoyance, unless prior permission has been granted by the building official in the interest of public convenience or necessity. No permit is required to perform emergency work as defined in Section 8.28.040.

General Plan

The City of Grass Valley 2020 General Plan provides goals, policies, and actions related to the noise environment. The 2020 General Plan provides noise standards for fixed noise sources and transportation noise sources; however, there are no policies or standards specific to construction noise or applicable to the program (City of Grass Valley 1999: 6-14 through 6-16).

Nevada City

Municipal Code

Title 8, "Health and Safety," of the Nevada City Municipal Code includes Nevada City's noise control standards. The regulations applicable to the program include:

Chapter 8.20 - Noise Control

8.20.010 - Definitions

- Make Noise. The phrase "make noise" includes noise made by a person, by a machine under his control or noise made by his animals or by animals in his possession, nor shall any person in control of, or in charge of, any property permit noise to be made in excess of limits set out in this chapter.
- "Daytime" means the period from 7:00 a.m. to 9:00 p.m.
- "Nighttime" means the period from 9:00 p.m. to 7:00 a.m.
- "Noise" means sound of any kind.
- "Receiving property" means any lot other than the source property.
- "Source property" means the lot where noise originates.

Section 8.20.030 - Noise limits—Nighttime—Designated

A. Subject to the exceptions in Section 8.20.050 of this chapter, in the nighttime (as defined in Section 8.20.010), no person shall make noise, nor allow an animal he keeps to make a noise exceeding the limits in Table 3.9-3:

Table 3.9-3 Nevada City Noise Limits—Nighttime—Designated

Receiving Property	Source Property	Noise Limit (dBA)
Residential	Residential	55
Residential	Nonresidential	60
Nonresidential	All	70

Notes: dBA = decibels.
Source: Nevada City 2021.

B. For purposes of nighttime limits (with additional provisions in Section 8.20.050 of this chapter concerning noise in streets), noise is measured on the receiving property. If a different limit is specified in Section 8.20.040 of this chapter, no person shall make a noise louder than that limit.

Section 8.20.050 - Measurement of Street Noise

When the source property is a street, no person shall make noise which, measured either on receiving property or twenty-five feet from the source, exceeds the limits set in Section 8.20.030 of this chapter.

Section 8.20.060 - Noise limits—Daytime—Designated

Subject to the exceptions in Section 8.20.070 of this chapter, in the daytime, no person shall make noise louder than 75 dBA measured 25 feet from the source. If a different limit is specified in Section 8.20.070 of this chapter, no person shall make a noise louder than that limit.

Section 8.20.070 - Noise limits—Daytime—Specific exceptions

The following are the specific daytime noise limit exceptions:

C. Construction work, limited to 90 dBA, measured 50 feet from the source.

General Plan

The Nevada City General Plan (Nevada City 1986 [amended in 2008, 2009, 2014]) addresses noise within the Public Safety Chapter. The noise-related policy applicable to the program includes:

- To maintain noise levels within the normal acceptable range (Table 3.9-4), single family residential areas should not be exposed to noise levels greater than 60 L_{dn}, hotel/motel to no greater than 65 L_{dn}, and office/commercial to no greater than 70 L_{dn}.

Table 3.9-4 Nevada City Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure - L_{dn} or CNEL (dB)													
	50		55		60		65		70		75		80	
Residential – Low-Density Single Family, Duplex, Mobile Homes														
Residential - Multi-Family														
Transient Lodging – Motels, Hotels														
Schools, Libraries, Churches, Hospitals, Nursing Homes														
Auditoriums, Concert Halls, Amphitheaters														
Sports Arenas, Outdoor Spectator Sports														
Playgrounds, Neighborhood Parks														
Golf Courses, Riding Stables, Water Recreation, Cemeteries														
Office Buildings, Business Commercial and Professional														
Industrial, Manufacturing, Utilities, Agriculture														

	Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
	Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
	Clearly Unacceptable: New construction or development generally should not be undertaken.

Notes: dB = decibels; L_{dn} = Day-Night Level; CNEL = Community Noise Equivalent Level.
Source: Nevada City General Plan, Public Safety 1986: Table 6.

Town of Truckee

Municipal Code

Chapter 9, "Safety and Conduct," of the Town of Truckee Municipal Code codifies the Town of Truckee's General Plan noise regulations. The regulations applicable to the program are listed below.

Section 9.20.020 Loud and Unreasonable Noise Prohibited

A. It is unlawful for any person to make, continue, or cause to be made or continued any noise disturbance. The factors which should be considered in determining whether a violation of this section exists, include the following:

   1. The sound level of the objectionable noise.
   2. The sound level of the ambient noise.
   3. The proximity of the noise to dwelling units, hospital, hotels and the like.
   4. The zoning of the area.
   5. The population density of the area.
   6. The time of day or night, provided that noises occurring between the hours of 10:00 p.m. and 7:00 a.m. may constitute a noise disturbance even if the same noises occurring at other times of day would not constitute a noise disturbance.
   7. The duration of the noise.
   8. Whether the noise is recurrent, intermittent, or constant.
   9. Whether the noise is produced by a commercial or noncommercial activity.
   10. Whether the nature of the noise is usual or unusual.
   11. Whether the noise is natural or unnatural.

Section 9.20.030 Exemptions

E. Right-of-way construction. The provisions of this chapter shall not apply to any work performed in the town rights-of-way by the Town or pursuant to an encroachment permit issued by the Town.

F. Public health, welfare, and safety activities. The provisions of this chapter shall not apply to construction, maintenance, and repair operations conducted by public agencies and/or utility companies or their contractors which are deemed necessary to serve the best interests of the public and to protect the public health, welfare and safety, including but not limited to, snow removal, trash collection, street sweeping, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic signals, unplugging sewers, vacuuming catch basins, repairing of damaged poles, removal of abandoned vehicles, repairing of water hydrants and mains, gas lines, oil lines, sewers, storm drains, roads, sidewalks, etc.

G. Construction. Noise sources associated with construction, repair, remodeling, or grading of any real property; provided a permit has been obtained from the Town as required; and provided said activities do not take place between the hours of 7:00 p.m. and 7:00 a.m. on weekdays, between the hours of 5:00 p.m. and 8:00 a.m. on Saturdays, or at any time on Sunday or a federal holiday (Town of Truckee 2021:9-52, 9-53).

Development Code

The Town of Truckee Development Code contains the following relevant standards and regulations that apply to noise in the town.

Section 18.44.040 – Exterior Noise Standards

Section 18.44.030 of the Development Code (Exterior Noise Standards) states that it is unlawful "for any person, at any location within the town, to create any noise or to allow the creation of any noise on property leased, occupied,

owned, or otherwise controlled by the person which does not comply with the provisions of the section, unless the provision of either Section 18.44.050 (Residential Interior Noise Standards) or 18.44.070 (Exceptions), below have been met." Exterior noise level criteria in Section 18.44.040 are presented in Table 3.9-5, below.

A. Exterior levels. Exterior noise levels, when measured at any receiving church, commercial, hospital, public library, residential or school property, do not conform to the provisions of this section when they exceed the noise level standards in Table 3.9-5.

B. Ambient noise level adjustment. In the event the measured ambient noise level exceeds the applicable noise level standard in any category in Table 3.9-5, the applicable standards shall be adjusted to equal the ambient noise level. For example, if the applicable noise level standard is 60 dB(A) and the ambient noise level is 63 dB(A), the applicable noise level standard would be adjusted to 63 dB(A). In these cases, a use would not exceed the applicable noise level standard if it did not increase the ambient noise level by more than 3.0 dB(A) when the ambient noise level is between 60 and 65 dB(A) or by more than 1.5 dB(A) when the ambient noise level is greater than 65 dB(A).

C. Simple tone noises. Each of the noise level standards identified in Table 3.9-5 shall be reduced by 5 dB(A) for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises.

D. Intruding noise source. If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period to allow measurement of the ambient noise level, the noise level measured while the source is in operation shall be compared directly to the applicable noise level standards in Table 3.9-5.

E. Equipment noise. The noise level standard applicable to the emission of sound from regulators, transformers, and associated equipment in electrical substations shall be 60 dB(A).

Table 3.9-5 Town of Truckee Exterior Noise Standards by Receiving Land Use

Noise Level Standards (dB)		
Cumulative Number of Minutes in Any Hour	Day (7:00 a.m. to 10:00 p.m.)	Night (10:00 p.m. to 7:00 a.m.)
Hospital, Library, Religious Institution, Residential, or School Uses		
30[1]	55	50
15	60	55
5	65	60
1	70	65
0	75	70
Commercial Uses		
30	65	60
15	70	65
5	75	70
1	80	75
0	85	80

Note: dB = decibels.

[1] For example, this means the measured noise level may not exceed 55 dB for more than 30 minutes out of any 1-hour time period.

Source: Town of Truckee 2021.

F. Commercial/Industrial exterior noise standard. Whenever a new office, commercial, hotel/motel or light industrial use is proposed on a parcel where the existing ambient noise levels may exceed 70 dB(A) CNEL, the land use permit application shall include an acoustical analysis of the effect of noise sources on the use. The acoustical analysis shall identify appropriate mitigation measures that reduce noise levels to acceptable levels. These mitigation measures shall be incorporated into the design, construction, and operation of the use. Office,

commercial, hotel/motel and light industrial uses that cannot mitigate noise levels to "Normally Acceptable" levels as defined in General Plan Figure N-3 (Noise Compatibility Guidelines) shall not be approved.

G. Public/Institutional exterior noise standard. Whenever a hospital, library, school, congregate care, or similar public or institutional use is proposed on a parcel where the existing ambient noise levels may exceed 65 dB(A) CNEL, the land use permit application shall include an acoustical analysis of the effect of noise sources on the use. The acoustical analysis shall identify appropriate mitigation measures that reduce noise levels to acceptable levels. These mitigation measures shall be incorporated into the design construction and operation of the use. Public and institutional uses that cannot mitigate noise levels to "Normally Acceptable" levels as defined in General Plan Figure N-3 (Noise Compatibility Guidelines) shall not be approved.

H. Sensitive land uses. Whenever a use is proposed on a parcel where the expected noise levels generated by the use, when measured at any receiving church, hospital, public library, residential or school property may exceed the noise level standards established in Table 3.9-5, the land use permit application shall include an acoustical analysis of the effect of the noise generated by the use on the sensitive land use property. An acoustical analysis shall also be required when a commercial or industrial loading dock or area is located within 300 feet of a sensitive use. The acoustical analysis shall identify appropriate mitigation measures that reduce exterior noise levels to acceptable levels established in Table 3.9-5. These mitigation measures shall be incorporated into the design, construction, and operation of the use.

I. Mitigation. Reasonable noise mitigation measures including building setbacks, alternative site design techniques and alternative building orientation layouts shall be employed in lieu of sound walls, perimeter and/or barrier fencing, or earthen berms to mitigate noise impacts. Sound walls may only be used if the review authority finds that there are no other reasonable mitigation measures available and that the height, location, aesthetics, and screening of the sound wall comply with all other applicable sections of this Development Code.

Section 18.44.070 - Exceptions

A. Construction. The provisions of this Chapter shall not apply to noise sources associated with non-single-family residential construction, provided the activities do not take place before 7:00 a.m. or after 9:00 p.m. on any day except Sunday, or before 9:00 a.m. or after 6:00 p.m. on Sunday. The review authority may impose further limitations on the hours and day of construction or other measures to mitigate significant noise impacts on sensitive uses.

F. Public health, safety, and welfare activities. The provisions of this Section shall not apply to construction or maintenance and repair operations conducted by public agencies and/or utility companies or their contractors which are deemed necessary to serve the best interests of the public and to protect the public health, safety and welfare, including debris and limb removal, removal of downed wires, repairing of gas lines, oil lines, roads, sewers, sidewalks, storm drains, traffic signals, water hydrants and mains, restoring electrical service, street sweeping, unplugging sewers, vacuuming catch basins, etc.

General Plan

The Town of Truckee 2025 General Plan (Town of Truckee 2006) addresses noise within the Noise Element. The noise-related policy applicable to the program includes:

- **Policy 3.13:** Require the following standard construction noise control measures to be included as requirements at construction sites to minimize construction noise impacts.
  - Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
  - Locate stationary noise generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
  - Utilize "quiet" air compressors and other stationary noise generating equipment where appropriate technology exists.

- The project sponsor shall designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and will require that reasonable measures warranted to correct the problem be implemented. The project sponsor shall also post a telephone number for excessive noise complaints in conspicuous locations in the vicinity of the project site. Additionally, the project sponsor shall send a notice to neighbors in the project vicinity with information on the construction schedule and the telephone number for noise complaints.

3.9.2 Environmental Setting

ACOUSTIC FUNDAMENTALS

Prior to discussing the noise setting for the program, background information about sound, noise, and common noise descriptors is needed to provide context and a better understanding of the technical terms referenced throughout this section.

Sound, Noise, and Acoustics

Sound can be described as the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., air) to a human ear. Noise is defined as loud, unexpected, annoying, or unwanted sound.

In the science of acoustics, the fundamental model consists of a sound (or noise) source, a receiver, and the propagation path between the two. The loudness of the noise source and obstructions or atmospheric factors affecting the propagation path to the receiver determines the sound level and characteristics of the noise perceived by the receiver. The field of acoustics deals primarily with the propagation and control of sound.

Frequency

Continuous sound can be described by frequency (pitch) and amplitude (loudness). A low-frequency sound is perceived as low in pitch. Frequency is expressed in terms of cycles per second, or hertz (Hz) (e.g., a frequency of 250 cycles per second is referred to as 250 Hz). High frequencies are sometimes more conveniently expressed in kilohertz, or thousands of hertz. The audible frequency range for humans is generally between 20 Hz and 20,000 Hz.

Sound Pressure Levels and Decibels

The amplitude of pressure waves generated by a sound source determines the loudness of that source. Sound pressure amplitude is measured in micro-Pascals (mPa). One mPa is approximately one hundred billionth (0.00000000001) of normal atmospheric pressure. Sound pressure amplitudes for different kinds of noise environments can range from less than 100 to 100,000,000 mPa. Because of this large range of values, sound is rarely expressed in terms of mPa. Instead, a logarithmic scale is used to describe sound pressure level (SPL) in terms of decibels (dB).

Addition of Decibels

Because decibels are logarithmic units, SPLs cannot be added or subtracted through ordinary arithmetic. Under the decibel scale, a doubling of sound energy corresponds to a 3-dB increase. In other words, when two identical sources are each producing sound of the same loudness at the same time, the resulting sound level at a given distance would be 3 dB higher than if only one of the sound sources was producing sound under the same conditions. For example, if one idling truck generates an SPL of 70 dB, two trucks idling simultaneously would not produce 140 dB; rather, they would combine to produce 73 dB. Under the decibel scale, three sources of equal loudness together produce a sound level approximately 5 dB louder than one source.

A-Weighted Decibels

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Although the intensity (energy per unit area) of the sound is a purely physical quantity, the loudness or human response is determined by the characteristics of the human ear.

Human hearing is limited in the range of audible frequencies as well as in the way it perceives the SPL in that range. In general, people are most sensitive to the frequency range of 1,000–8,000 Hz and perceive sounds within this range better than sounds of the same amplitude with frequencies outside of this range. To approximate the response of the human ear, sound levels of individual frequency bands are weighted, depending on the human sensitivity to those frequencies. Then, an "A-weighted" sound level (expressed in units of A-weighted decibels) can be computed based on this information.

The A-weighting network approximates the frequency response of the average young ear when listening to most ordinary sounds. When people make judgments of the relative loudness or annoyance of a sound, their judgment correlates well with the A-scale sound levels of those sounds. Thus, noise levels are typically reported in terms of A-weighted decibels. All sound levels discussed in this section are expressed in A-weighted decibels. Table 3.9-6 describes typical A-weighted noise levels for various noise sources.

Table 3.9-6 Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 feet	— 100 —	
Gas lawn mower at 3 feet	— 90 —	
Diesel truck at 50 feet at 50 miles per hour	— 80 —	Food blender at 3 feet, Garbage disposal at 3 feet
Noisy urban area, daytime, Gas lawn mower at 100 feet	— 70 —	Vacuum cleaner at 10 feet, Normal speech at 3 feet
Commercial area, Heavy traffic at 300 feet	— 60 —	
Quiet urban daytime	— 50 —	Large business office, Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime	— 30 —	Library, Bedroom at night
Quiet rural nighttime	— 20 —	
	— 10 —	Broadcast/recording studio
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 2013: Table 2-5.

Human Response to Changes in Noise Levels

The doubling of sound energy results in a 3-dB increase in the sound level. However, given a sound level change measured with precise instrumentation, the subjective human perception of a doubling of loudness will usually be different from what is measured.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear can discern 1-dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000–8,000 Hz) range. In general, the healthy human ear is most sensitive to sounds between 1,000 and 5,000 Hz and perceives both higher and lower frequency sounds of the same magnitude with less intensity (Caltrans 2013: 2-18). In typical noisy environments, changes in noise of 1–2 dB are generally not perceptible. However, it is widely accepted that people can begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5-dB increase is generally perceived as a distinctly noticeable increase, and a 10-dB increase is generally perceived as a doubling of loudness (Caltrans 2013: 2-10). Therefore, a doubling of sound energy (e.g., doubling the volume of traffic on a highway) that would result in a 3-dB increase in sound would generally be perceived as barely detectable.

Common Noise Descriptors

Noise in our daily environment fluctuates over time. Various noise descriptors have been developed to describe time-varying noise levels. The following are the noise descriptors used throughout this section.

Equivalent Continuous Sound Level (L_{eq}): L_{eq} represents an average of the sound energy occurring over a specified period. In effect, L_{eq} is the steady-state sound level containing the same acoustical energy as the time-varying sound level that occurs during the same period (Caltrans 2013: 2-48). For instance, the 1-hour equivalent sound level, also referred to as the hourly L_{eq}, is the energy average of sound levels occurring during a 1-hour period and is the basis for noise abatement criteria used by California Department of Transportation (Caltrans) and Federal Transit Administration (FTA) (Caltrans 2013: 2-47; FTA 2018: 210).

Maximum Sound Level (L_{max}): L_{max} is the highest instantaneous sound level measured during a specified period (Caltrans 2013:2-48; 2018:207–208).

Day-Night Level (L_{dn}): L_{dn} is the energy average of A-weighted sound levels occurring over a 24-hour period, with a 10-dB "penalty" applied to sound levels occurring during nighttime hours between 10:00 p.m. and 7:00 a.m. (Caltrans 2013: 2-48; FTA 2018: 214).

Community Noise Equivalent Level (CNEL): CNEL is the energy average of the A-weighted sound levels occurring over a 24-hour period, with a 10-dB penalty applied to sound levels occurring during the nighttime hours between 10:00 p.m. and 7:00 a.m. and a 5-dB penalty applied to the sound levels occurring during evening hours between 7:00 p.m. and 10:00 p.m. (Caltrans 2013: 2-48).

Sound Propagation

When sound propagates over a distance, it changes in level and frequency content. The manner in which a noise level decreases with distance depends on the following factors:

Geometric Spreading

Sound from a localized source (i.e., a point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Roads and highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources, thus propagating at a slower rate in comparison to a point source. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source.

Ground Absorption

The propagation path of noise from a source to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling provides additional attenuation associated with geometric spreading. Traditionally, this additional attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 feet. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver, such as soft dirt, grass, or scattered bushes and trees), additional ground-attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the attenuate rate associated with cylindrical spreading, the additional ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance. This would hold true for point sources, resulting in an overall drop-off rate of up to 7.5 dB per doubling of distance.

Atmospheric Effects

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels, as wind can carry sound. Sound levels can be increased over large distances (e.g., more than 500 feet) from the source because of atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also affect sound attenuation.

Shielding by Natural or Human-Made Features

A large object or barrier in the path between a noise source and a receiver attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Natural terrain features (e.g., hills and dense woods) and human-made features (e.g., buildings and walls) can substantially reduce noise levels. A barrier that breaks the line of sight between a source and a receiver will typically result in at least 5 dB of noise reduction (Caltrans 2013: 2-41; FTA 2018: 42). Barriers higher than the line of sight provide increased noise reduction (FTA 2018:16). Vegetation between the source and receiver is rarely effective in reducing noise because it does not create a solid barrier unless there are multiple rows of vegetation (FTA 2018: 15, 104, 106).

EXISTING NOISE ENVIRONMENT

Existing Noise-Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels, and because of the potential for nighttime noise to result in sleep disruption. Additional land uses such as schools, transient lodging, historic sites, cemeteries, and places of worship are also generally considered sensitive to increases in noise levels.

Existing Noise Sources and Ambient Levels

The existing noise environment within the program area is generally influenced by surface transportation noise emanating from vehicular traffic on the roadway system, agricultural equipment operations, rail activity, and aircraft over-flights. In urban areas, such as the City of Grass Valley, noise levels are higher as a result of increased traffic, commercial and industrial uses, stationary sources, and human populace.

3.9.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

Construction Noise

To assess potential short-term (construction-related) noise impacts, sensitive receptors and their relative exposure were identified. Individual fiber project-generated construction source noise levels were determined based on methodologies, reference emission levels, and usage factors from FTA's *Guide on Transit Noise and Vibration Impact Assessment* methodology (FTA 2018) and the Federal Highway Administration's (FHWA's) *Roadway Construction Noise Model User's Guide* (FHWA 2006). Reference levels for noise emissions for specific equipment or activity types are well documented and the usage thereof common practice in the field of acoustics.

Specific locations, timing, and other construction activity details associated with the program are not available at this time. However, to evaluate potential construction noise impacts, typical construction equipment used for various construction methods that would occur with implementation of the individual fiber projects under the program were analyzed.

THRESHOLDS OF SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines and noise policies and standards in each local jurisdiction's municipal code and general plan, an impact is considered significant if implementation of the program would result in any of the following:

- Construction-generated noise levels exceeding the following noise standards in each applicable jurisdiction:

- Nevada County: 55 dB L_{eq} or 75 dB L_{max} as measured at the adjacent property line between the hours of 7:00 a.m. and 7:00 p.m.,
- Town of Truckee: 55 dB L_{eq} as measured at the adjacent property line between the hours of 7:00 a.m. and 10:00 p.m.,
- City of Grass Valley: 55 dB L_{eq} as measured at the adjacent property line between the hours of 7:00 a.m. and 8:00 p.m., and/or
- Nevada City: construction equipment exceeding 90 dB measured at a distance of 50 feet.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.9-1: Exposure of Persons to or Generation of Excessive Construction Noise

The program would generate temporary, intermittent construction noise as individual fiber projects are implemented. Construction noise is exempt from noise standards for projects located within unincorporated Nevada County and the Town of Truckee. Construction equipment could reach a noise level of 83 dB L_{eq} at 50 feet; thus, construction activity would not exceed Nevada City's construction noise standard of 90 dB within 50 feet. However, construction equipment operation would surpass 90 dB within 23 feet of construction. Similarly, individual fiber projects located in the City of Grass Valley could exceed the daytime noise standard for residential uses of 55 dB L_{eq} if construction were to occur within 1,269 feet of sensitive receptors. Because individual fiber project information is not known at this time, it is unknown whether individual projects would be located farther than 1,269 feet or 23 feet from sensitive receptors in the City of Grass Valley and Nevada City, respectively. In any case, construction activities along any given roadway or fiber route would be temporary and would not require any stationary noise equipment. Notwithstanding, construction activities in the vicinity of sensitive receptors could generate noise levels that cause discomfort or annoyance throughout the program area. Therefore, the impact would be **potentially significant**.

Construction activities associated with the program would begin as early as spring 2023 and would result in short-term noise increases. As detailed in Chapter 2, "Project Description," for 1 mile of undergrounded fiber optic line, boring activities would take an estimated average of 10 days and trenching would take an estimated average of 18-20 days. Additionally, as detailed in Chapter 2, construction activities would typically occur between the hours of 7:00 a.m. and 6:00 p.m. on weekdays, with some construction activities potentially occurring on Saturdays.

Individual fiber projects would utilize various types of construction equipment depending on each individual project location and the type of installation. Additionally, construction-generated noise levels would fluctuate depending on the type, number, and duration of the equipment being used. The effects of construction noise largely depend on the type of construction activities occurring on any given day, noise levels generated by those activities, distances to noise sensitive receptors, and the ambient noise environment at nearby receptors. Project construction methods could consist of trenching, microtrenching, horizontal directional drilling, plowing, utility pole placement, fiber blowing, fiber splicing, and aerial stringing.

Construction equipment would vary by construction method, but the construction process could include operation of the following types of equipment: pickup/utility trucks, cable plows, trenchers, excavators with a rock saw or rock breaker, dump trucks, backhoes, boring rigs, and bucket trucks (for aerial installation). Noise generated from these pieces of equipment would be temporary and intermittent as typical use is characterized by short periods of full-power operation followed by extended periods of lower power, idling, or powered-off conditions. It is expected that the most noise intensive, and primary sources of noise would include trucks, backhoes, and excavators. Noise emission levels from these types of construction equipment are shown in Table 3.9-7, below.

Table 3.9-7 Reference Noise Levels from Typical Construction Equipment

Equipment	Typical Noise Level 50 ft from Source, dB
Air Compressor	80
Backhoe/Loader	80
Compactor	82
Concrete Mixer	85
Concrete Vibrator	76
Crane, Mobile	83
Dozer	85
Generator/Pump	82
Grader	85
Jack Hammer	88
Paver	85
Pile-driver (Impact)	101
Pile-driver (Sonic)	95
Trucks	84

Notes: dB = decibels; ft = feet.
Source: FTA 2018: Table 7-1.

As detailed above, construction activities would generally occur between the hours of 7:00 a.m. and 6:00 p.m. on weekdays; and thus, would be subject to the applicable daytime noise standards. Modeling for construction noise conservatively assumed simultaneous operation of three pieces of equipment (an excavator, dump truck, and backhoe) in one location. These three pieces of equipment would generate a combined noise level of 83 dB L_{eq} at 50 feet. Construction noise would attenuate to the following noise standards for residential uses at a distance of 1,269 feet:

- City of Grass Valley: 55 dB L_{eq} as measured at the adjacent property line between the hours of 7:00 a.m. and 8:00 p.m.
- Town of Truckee: 55 dB L_{eq} as measured at the adjacent property line between the hours of 7:00 a.m. and 10:00 p.m.
- Nevada County: 55 dB L_{eq} as measured at the adjacent property line between the hours of 7:00 a.m. and 7:00 p.m.

Additionally, Nevada County's L_{max} threshold for residential uses would be reached at a distance of 169 feet. Construction activity would not exceed the Nevada City construction noise standard of 90 dB at a distance of 50 feet because, as detailed above, the noise level of the modeled equipment is 83 dB L_{eq} at 50 feet. Nevada City's construction noise standard of 90 dB would be exceeded within 23 feet of construction. Calculations of these combined noise levels are provided in Appendix C.

Individual fiber project construction in Nevada City could exceed applicable noise standards within 23 feet of construction activity. Additionally individual projects located in the City of Grass Valley could exceed local noise standards if construction occurs within 1,269 feet of sensitive receptors as detailed in the paragraph above. Although the Town of Truckee and Nevada County have exempted construction noise from their noise ordinance standards (Sections 9.20.030 and L-II 4.1.7:8, respectively), as detailed under the "Regulatory Setting" header, construction noise could still result in elevated construction noise levels that could potentially have an adverse effect on nearby sensitive receptors for short-term periods. Similar to the City of Grass Valley, individual fiber project construction located within the Town of Truckee and/or Nevada County could exceed the 55 dB L_{eq} noise standard within 1,269 feet of sensitive receptors. For this reason, the impact would be **potentially significant**.

Mitigation Measures

Mitigation Measure 3.9-1: Implement Measures to Reduce Exposure to Construction Noise

The construction contractors for individual fiber projects shall comply with the following measures for all construction activity to take place within 1,269 feet of noise sensitive receptors in the City of Grass Valley, Nevada County, and/or Town of Truckee and that are anticipated to generate exterior noise levels above 55 dB L_{eq} or that are within 23 feet of noise sensitive receptors in Nevada City:

- Equip all internal combustion engine driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate noise generating equipment as far as possible from noise-sensitive uses when noise-sensitive uses adjoin or are near a construction project area.
- Use "quiet" air compressors and other stationary noise-generating equipment where appropriate technology exists.
- The project sponsor shall designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., starting too early, bad muffler) and will require that reasonable measures warranted to correct the problem be implemented. The project sponsor shall also post a telephone number for excessive noise complaints in conspicuous locations in the vicinity of the project site and send a notice to neighbors in the project vicinity with information on the construction schedule and the telephone number for noise complaints.
- Install temporary noise curtains as close as possible to the noise-generating activity such that the curtains obstruct the direct line of sight between the noise-generating construction activity and the nearby sensitive receptors. Temporary noise curtains shall consist of durable, flexible composite material featuring a noise barrier layer bounded to sound-absorptive material on one side. The noise barrier layer shall consist of rugged, impervious, material with a surface weight of at least 1 pound per square foot.
- Noise-reducing enclosures and techniques shall be used around stationary noise-generating equipment (e.g., concrete mixers, generators, compressors).
- Operate heavy-duty construction equipment at the lowest operating power possible.
- Provide a minimum of 1 week of advance notice to owners of all residential located within 1,300 feet of where construction activity would take place. This noticing shall inform the recipients of when and where construction would occur and the types of measures being implemented to lessen the impact at potentially affected receptors. This noticing shall also provide the contact information for the designated disturbance coordinator.

Significance after Mitigation

Implementation of Mitigation Measure 3.9-1 would reduce levels of construction noise exposure at noise-sensitive receptors by ensuring proper equipment use; locating noise-generating equipment away from sensitive land uses; locating temporary barriers around noisy equipment; and requiring the use of enclosures, shields, and noise curtains (noise curtains typically can reduce noise by up to 10 dB [EPA 1971]). Construction activities would be prohibited by ordinance during noise-sensitive hours and would be temporary in any given location. Thus, Mitigation Measure 3.9-1 would substantially reduce construction-related noise, reducing the potential for disturbance and annoyance at sensitive receptors. With implementation of Mitigation Measure 3.9-1, the impact would be reduced to a **less-than-significant** level.

CUMULATIVE IMPACTS

While construction noise can be controlled on-site at the point of origin, traffic noise may extend beyond an individual fiber project site along existing public or private roadways and in previously disturbed and/or developed areas and result in significant traffic noise impacts at sensitive uses along these areas. However, construction of individual fiber projects under the program would be temporary, and implementation of the program would not substantially increase the number of trips within the program area in the long-term; therefore, the program would not result in a long-term

increase in traffic noise levels. Additionally, operation of the program would result in similar long-term operations as existing conditions because operations would not introduce new stationary noise sources and inspection and maintenance activities would involve limited equipment and vehicle use.

As discussed above, implementation of the program would temporarily generate noise levels above existing conditions during construction. Noise is a localized issue in that it attenuates with increasing distance from the source. Therefore, only reasonably foreseeable future development projects in the direct vicinity of a given fiber project would have the potential to combine with anticipated project-generated noise, resulting in a cumulative noise impact. Table 3.1-2 identifies several existing or reasonably foreseeable future projects that could overlap with the construction of individual fiber projects. However, because construction noise is temporary, localized, and attenuates rapidly from the source, no significant cumulative construction noise impact would result. Therefore, the program would not result in a considerable contribution to any significant construction noise impact.

3.10 TRANSPORTATION

This section describes the applicable federal, state, and local transportation regulations and policies; discusses the existing roadway network and transportation facilities in the program area; and analyzes the potential impacts from implementation of the proposed program on transportation.

Pursuant to Senate Bill (SB) 743, Public Resources Code (PRC) Section 21099, and California Code of Regulations (CCR) Section 15064.3(a), generally, vehicle miles traveled (VMT) is the most appropriate measure of transportation impacts and a project's effect on automobile delay shall no longer constitutes a significant impact under CEQA. Therefore, the transportation analysis herein evaluates impacts using VMT and does not include level of service (LOS) analysis.

As described in Chapter 2, "Project Description," the operational activities associated with the proposed program would only involve routine maintenance to check the vaults that access the fiber optic lines. Therefore, the methodology used to analyze the transportation impacts from the proposed program is primarily based on construction activities.

Comments received regarding transportation in response to the notice of preparation (NOP) included the necessity to obtain California Department of Transportation (Caltrans') Encroachment Permits for any work performed within the State's right-of-way, which would require the program to meet Caltrans construction and design standards. See Appendix A for all NOP comments received.

3.10.1 Regulatory Setting

FEDERAL

Federal Highway Administration

The Federal Highway Administration (FHWA), an agency of the US Department of Transportation, provides stewardship over the construction and preservation of the nation's highways, bridges, and tunnels. FHWA also conducts research and provides technical assistance to State and local agencies to improve safety, mobility, and livability and to encourage innovation in these areas. FHWA also provides regulation and guidance related to work zone safety, mobility, and temporary traffic control device implementation.

STATE

California Department of Transportation

Caltrans is the state agency responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as the segments of the Interstate Highway System that lie within California. Caltrans District 3 is responsible for the operation and maintenance of the highways in the program area. Caltrans requires a transportation permit for any transport of heavy construction equipment or materials that necessitates the use of oversized vehicles on state highways.

The Caltrans Transportation Impact Study Guide (TISG) was prepared to provide guidance to Caltrans Districts, lead agencies, tribal governments, developers, and consultants regarding Caltrans review of a land use project or plan's transportation analysis using a VMT metric. This guidance is not binding on public agencies, and it is intended to be a reference and informational document. The TISG replaces the Guide for the Preparation of Traffic Impact Studies and is for use with local land use projects, not for transportation projects on the State Highway System (Caltrans 2020).

Senate Bill 743

SB 743, passed in 2013, required the Governor's Office of Planning and Research (OPR) to develop new State CEQA Guidelines that address traffic metrics under CEQA. As stated in the legislation, upon adoption of the new guidelines, "automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any."

OPR published its proposal for the comprehensive updates to the State CEQA Guidelines in November 2017 which included proposed updates related to analyzing transportation impacts pursuant to Senate Bill 743. These updates indicated that VMT would be the primary metric used to identify transportation impacts. In December of 2018, OPR published the most recent version of the *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR 2018) which provides guidance for VMT analysis.

In December 2018, OPR and the State Natural Resources Agency submitted the updated State CEQA Guidelines to the Office of Administrative Law for final approval to implement SB 743. The Office of Administrative Law subsequently approved the updated State CEQA Guidelines, and local agencies had an opt-in period until July 1, 2020 to implement the updated guidelines. As of July 1, 2020, implementation of Section 15064.3 of the updated State CEQA Guidelines apply statewide.

REGIONAL

Nevada County Transportation Commission

The Nevada County Transportation Commission (NCTC) is a Regional Transportation Planning Agency (RTPA). As the RTPA for Nevada County, the NCTC coordinates transportation planning for the City of Grass Valley, Nevada City, Nevada County and the Town of Truckee. NCTC's mission is to "plan, communicate and coordinate with the citizens and decision-makers of Grass Valley, Nevada City, Nevada County, the Town of Truckee, and with Caltrans to identify transportation needs, propose solutions, and assist in implementing projects to create a balanced regional transportation system, while protecting the rural qualities and historic character of Nevada County" (NCTC 2015).

Senate Bill 743 Vehicle Miles Traveled Implementation

As part of the regional transportation planning process, NCTC, in coordination with the Nevada County, City of Grass Valley, Nevada City, and Town of Truckee, developed a planning study to provide recommendations for methodology, thresholds, and procedures for the analysis of land use and transportation projects and plans in each of the jurisdictions within Nevada County in relation to implementation and compliance with SB 743. The report includes the following:

- An overview of SB 743 and related policies and how VMT may be measured
- A summary of available VMT data for Nevada County
- A discussion of alternatives for VMT measurement methods and thresholds
- Recommendations regarding VMT methods and thresholds for lead agencies in Nevada County
- Examples of recent projects in Nevada County to demonstrate how these methods and thresholds would be used
- Recommendations of transportation demand management (TDM) strategies for reducing VMT on projects in Nevada County

The screening criteria provided in the SB 743 Vehicle Miles Traveled Implementation guidance applicable to the proposed program includes:

- Projects consistent with an RTP or General Plan that attract fewer than 110 trips per day. However, substantial evidence for this threshold is not provided. Because VMT is cumulative, any addition may be considered significant (NCTC 2020: 23).

Nevada County Regional Transportation Plan

The 2016 Nevada County Regional Transportation Plan (RTP) was adopted in January 2018. The RTP identifies transportation policies, actions, and funding recommendations to meet the short- and long-term access and mobility needs of Nevada County residents in twenty years. The RTP is designed to guide the systematic development of a comprehensive multi-modal transportation system for Nevada County.

Nevada County Active Transportation Plan

The Nevada County Active Transportation Plan was adopted in July 2019 to provide a framework for walking and biking in the region, including Nevada County, City of Grass Valley, Nevada City, and Town of Truckee. The Active Transportation Plan identifies goals and objectives to implement infrastructural and programmatic improvements to increase the number of people who walk and bike and reduce VMT. The Active Transportation Plan combines previous bicycle and pedestrian planning efforts, evaluates needs, identifies projects, and recommends the prioritization of projects.

LOCAL

Nevada County General Plan

The Nevada County General Plan (Nevada County 2010a) provides a framework for future growth and development. The General Plan identifies the unincorporated County's priorities to meet goals for the local transportation and circulation system. The following Circulation policies pertain to the proposed program:

- **Policy RD-4.3.9:** Bridges and other public road facilities that are designated as components of or connections for non-vehicular trails and pathways, as shown on the Bicycle, Pedestrian or Non-Motorized Trail Master Plans, shall be designed and constructed to ensure the safety and security of all users.

Nevada County Encroachment Permit

The Nevada County Department of Public Works Encroachment Permit for Construction and Driveways requires the preparation of an engineered traffic control plan and site plan. The Encroachment Permit Conditions of Approval provide regulatory guidance to applicants including the following protocols related to roadway rights-of-way:

- **Protection of Traffic:** Adequate provision shall be made for protection of the traveling public. Barricades with lights shall be placed at night. All traffic control, including devices and personnel requirements, shall be as required by the current State of California Manual of Traffic Controls for Construction and Maintenance Work Zones and as directed by Grantor.
- **Minimum Interference with Traffic:** All work shall be planned and carried out so there will be the least possible inconvenience to the traveling public. Traffic shall be permitted to pass at all times unless otherwise specified. One-way traffic may be maintained in the area of work only during daylight hours. Two-way traffic shall be maintained at all times during hours of darkness and, where practical, during daylight hours.
- **Storage of Material:** No material shall be stored within eight (8) feet of the edge of pavement or traveled way or within shoulder lines where shoulders are wider than eight (8) feet.
- **Clean Up Right-of-way:** During construction, the roadway surface shall be kept free of dirt or gravel as much as practical. Any potential hazard, such as mud or gravel, shall be removed immediately and in no case may material be allowed to remain on the surface at the end of the working day. Upon completion of the work, all brush, timber, scraps or other materials shall be entirely removed and right-of-way left in as presentable a condition as before work started.
- **Standards of Construction:** All work and material shall conform to applicable Nevada County Department of Public Works Standards and current California Department of Transportation Standard Specifications. Nevada County Standards shall govern should there be a conflict between the two sets of standards.

- **Horizontal Offset:** All fixed objects shall be placed a minimum of 8 feet from edge of traveled roadway, unless pre-approved by Nevada County Public Works.
- **Traffic Control Plans**: Sample Traffic Control Plans can be found on the internet and on the Caltrans website. Traffic Control Plans should adequately document where signs, flaggers, cones, or other warning devices are placed for oncoming traffic that could be impacted by work being performed and equipment being used that is placed in roads in the unincorporated county areas (Nevada County n.d.).

Nevada County Road Standards

The Nevada County Improvement Standards set design and construction standards for public and private works under the jurisdiction of Nevada County to provide for the coordinated development of facilities to be used by and for the protection of the public. The Nevada County Road Standards set the guidelines for the design, plan preparation, and construction of roads, drainage, and related improvements (Nevada County 2010b). Because the program would include construction within public and private roadways, if roadway reconstruction were required these standards would apply.

City of Grass Valley Encroachment Permit

An Encroachment Permit is required for anyone that will be working in or blocking City of Grass Valley right-of-way by any means per Municipal Code 12.48.050 (City of Grass Valley 2020). Applicants must submit construction plans showing the proposed improvements and existing structures, sidewalks, driveways, and so on. Additionally, the applicant is required to prepare a traffic control plan detailing lane, shoulder or parking closures and any required pedestrian re-routing for sidewalk closures.

Nevada City Encroachment Permit

Nevada City Ordinance Number 2021-04 provides requirements for obtaining an encroachment permit, paying applicable fees, providing insurance, and restoring the roadway after completion. Projects that involve excavation must provide site and construction plans demonstrating planned activities. Ordinance Number 2021-04 provides standards related to trenching and resurfacing and the repair of sunken pavement over excavation. Additionally, Section 12.02.180 includes regulations pertaining to public safety and traffic control including the requirement for adequate signage, barricades, and lighting, as well as protocols applicable to land closures (Nevada City 2021).

Town of Truckee General Plan

The Town of Truckee General Plan (Town of Truckee 2006) is the Town's blueprint for future growth and development. The General Plan identifies objectives and policies to meet goals for the local transportation and circulation system. The following Mobility and Transportation policies pertain to the proposed program:

- **Policy 3.2:** Require the assessment of construction-related project impacts in traffic impact analyses, that assesses and adequately mitigates the effect of construction traffic on the roadway network, as well as any potential disruption to or re-routing of traffic that might be needed during project construction.

Town of Truckee VMT Thresholds of Significance

The Town of Truckee has developed VMT analysis methodologies, thresholds of significance, and mitigation strategies for transportation impacts based upon OPR's Technical. The following project type applicable to the proposed program is screened from a detailed VMT study and presumed to cause a less-than-significant transportation impact based on Town of Truckee VMT guidance:

- Non-Residential
  - Any local-serving non-residential development that is less than 15,000 square feet of floor area AND is within the screening area identified in Figure B. However, this does not apply to a regional-serving retail or event venue project where more than 20 percent of customers are expected to come from outside the eastern Nevada County/eastern Placer County/eastern Sierra County region (excluding pass-by trips), or an office (or other major employment generator) where more than 20 percent of employees are expected to live outside

this region. The origins of customers may be estimated based on market studies, data collected at similar existing projects, or opinions of qualified professionals.

- The following land use types that will be considered local without a detailed analysis: Utility facilities (water, sewer, communication, etc.)

  Total project non-residential building square footage must be less than 15,000 square feet to qualify to be screened out. Note that if there is no building associated with the recreational use, recreational uses with an outdoor facility size of 40,000 square feet (excluding parking and frontage improvements) or smaller within the exemption area will be screened out.

- Non-residential uses outside the screening area identified in Figure B will not be screened out, regardless of size.

A project that is not screened out and that meets one or more of the following criteria is considered to have a significant VMT impact:

- The project is inconsistent with the Truckee General Plan land use forecasts, such that the Project is a higher density or a different land use type that is anticipated to generate a net increase in VMT from what would have been generated from the Truckee General Plan land use forecasts;
- The project's daily VMT per unit of development (such as thousand square feet of floor area, lodging or residential units, etc.) is greater than 85 percent of the town-wide average for the individual land use type. VMT per unit shall be calculated by a qualified professional. The VMT per unit of development for each component of a mixed-use project shall be evaluated independently and any valid reduction associated with trips remaining internal between the individual uses may be considered. In addition, mixed use developments must meet the screening criteria for all individual land use categories for the entire project to be screened out (Town of Truckee 2022).

Town of Truckee Public Improvements and Engineering Standards

Section E of the Town of Truckee Improvement Standards provides for the requirement of a traffic control plan when work is proposed within existing roads in the Town of Truckee and where a traffic control plan is required by the Town engineer (Town of Truckee 2003). Additionally, Section 4, "Streets," identifies the Town of Truckee's design requirements for the roadway system including bikeways and sight distance standards.

3.10.2 Environmental Setting

This section describes the existing environmental setting, which is the baseline scenario upon which program-specific impacts are evaluated. The environmental setting for transportation includes baseline descriptions for roadway, transit, bicycle, and pedestrian facilities.

ROADWAY SYSTEM

FHWA classifies urban and rural roadways by road function. Each function class is based on the type of service the road provides to the motoring public, and the designation is used for data and planning purposes (FHWA 2000). FHWA defines each roadway classification as follows:

- **Interstates:** Interstates are the highest classification of Arterials and were designed and constructed with mobility and long-distance travel in mind.
- **Other Freeways and Expressways:** Roadways in this functional classification category look very similar to Interstates. While there can be regional differences in the use of the terms 'freeway' and 'expressway', for the purpose of functional classification the roads in this classification have directional travel lanes are usually separated by some type of physical barrier, and their access and egress points are limited to on- and off-ramp locations or a very limited number of at-grade intersections.

- **Other Principal Arterials:** These roadways serve major centers of metropolitan areas, provide a high degree of mobility and can also provide mobility through rural areas. Unlike their access-controlled counterparts, abutting land uses can be served directly.
- **Minor Arterials:** Minor Arterials provide service for trips of moderate length, serve geographic areas that are smaller than their higher Arterial counterparts and offer connectivity to the higher Arterial system.
- **Major and Minor Collectors:** Collectors serve a critical role in the roadway network by gathering traffic from Local Roads and funneling them to the Arterial network.
- **Local Roads:** Locally classified roads account for the largest percentage of all roadways in terms of mileage. They are not intended for use in long distance travel, except at the origin or destination end of the trip, due to their provision of direct access to abutting land (FHWA 2013: 14-17).

TRANSIT SYSTEM

Nevada County Connects provides local and regional fixed-route bus service to the cities, towns, and unincorporated areas of Western Nevada County including Nevada City and the City of Grass Valley. Bus service is provided Monday through Friday between 5:30 a.m. and 8:00 p.m. Limited Saturday service is available on Routes 1, 2, 3, 4, 6, and Alta Sierra between 7:15 a.m. and 5:30 p.m. There is also a limited stop regional commuter service to and from the City of Grass Valley and the City of Auburn. Fixed route service is provided Monday through Friday from 6:00 a.m. to 8:30 p.m. and Saturday from 7:30 a.m. to 5:00 p.m. Additionally, Nevada County Now, an Americans with Disabilities Act (ADA) origin-to-destination/door-to-door paratransit service is available to eligible riders.

Tahoe Truckee Area Regional Transportation (TART) provides public transportation for the Truckee-North Lake Tahoe region. Fixed-route bus service is generally offered between the hours of 6:00 a.m. and Routes Highway 267, Highway 89, and Truckee Local TART offer direct access to the Town of Truckee. Additionally, the Truckee Holiday Shuttle provides free seasonal shuttle service from Truckee neighborhoods, Palisades Tahoe, and Northstar. Truckee TART Dial-A-Ride service is offered year-round to ADA certified passengers Monday through Friday from 8:00 a.m. to 5:00 p.m. and on the weekends from 9:00 a.m. to 5:00 p.m.

BICYCLE SYSTEM

The bicycle and pedestrian transportation system in Nevada County is composed of bikeways and trails. The ATP classifies bicycle facilities into the following six types:

- **Class I Bike Paths:** Class I bike paths, often referred to as shared-use paths or trails, are off-street facilities that provide exclusive use for nonmotorized travel, including bicyclists and pedestrians. Bike paths have minimal cross flow with motorists and are typically located along landscaped corridors.
- **Class II Bike Lanes:** Class II bike lanes are on-street facilities that use striping, stencils, and signage to denote preferential or exclusive use by bicyclists. On-street bikes lanes are located adjacent to motor vehicle traffic. Bike lanes provide adequate space for comfortable riding and alert drivers about the predictable movements of bicyclists.
- **Class III Bike Routes:** Class III bike routes are streets with signage and optional pavement markings where bicyclists travel on the shoulder or share a lane with motor vehicles (Figure 4). Class III bike routes are utilized on low-speed and low-volume streets to connect bike lanes or paths along corridors that do not provide enough space for dedicated lanes.
- **Class III Bike Route with Multi-Use Shoulder:** Class III bike routes with multi-use shoulders include the features of Class III bike routes and additionally provides a striped shoulder of variable width. This facility is used when jurisdictions wish to maximize road space for bicycles but do not have sufficient right-of-way to meet minimum requirements for Class II bike lanes.

- **Class IV Separated Bikeways:** Class IV separated bikeways, commonly known as cycle tracks, are physically separated bicycle facilities that are distinct from the sidewalk and designed for exclusive use by bicyclists. They are located within the street right-of-way but provide comfort similar to Class I bike paths. The key feature of a separated bikeway is a vertical element that provides physical separation from motor vehicle traffic.
- **Earthen Trails:** Earthen trails are facilities for use exclusively by nonmotorized users such as bicyclists, pedestrians, equestrians, and other non-motorized users, with minimal cross-flow by motor vehicles (NCTC 2019: 9-11).

As of 2019, the Nevada County's bicycle system was comprised of 110.6 miles of bicycle and paved trail facilities and over 57 miles of sidewalks (NCTC 2019: 27). Table 3.10-1 summarizes the existing facilities by jurisdiction in the region.

Table 3.10-1 Existing Bicycle and Pedestrian Facilities

Facility Type	Grass Valley (miles)	Nevada City (miles)	Truckee (miles)	Unincorporated Nevada County (miles)	Total (miles)
Sidewalks[1, 2]	14	33.8	6.5	2.9	57.2
Class I Bike Paths	0.5	0.4	20.6	3.2	24.7
Class II Bike Lanes	5.5	0	29	8	42.5
Class III Bike Routes	1.8	0.4	34.8	6.4	43.4
Class III with Multi-Use Shoulder	0	0	0	7	7
Earthen Trails (Recreational)	9.3	7.5	19	287.8	323.6

[1] Most significant areas only. Additional sidewalks exist but are not included in totals.
[2] Per side of street. One mile of street with sidewalks on both sides is 2 miles of sidewalks.

Source: NCTC 2019: 27.

3.10.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

State CEQA Guidelines Section 15064.3 was added December 28, 2018, to address the new method of determining significance for transportation impacts. The new method requires that the analysis is based on VMT instead of congestion (such as LOS). The change in the focus of transportation analysis is the result of legislation (SB 743) and is intended to change the focus from congestion to, among other things, reducing greenhouse gas emissions, encouraging mixed use development, and other factors. Pursuant to State CEQA Guidelines Section 15064.3©, this change in analysis was mandated to be used beginning July 1, 2020.

State CEQA Guidelines Section 15064.3(b) identifies four criteria for analyzing the transportation impacts of a project. To determine how the program should be considered, each of the criteria is discussed below.

- Section 15064.3(b)(1) addresses land use projects. The proposed program could develop approximately 2,230 miles of fiber-based infrastructure in county or city/town roadway rights-of-way to expand broadband technology access throughout the county. The program contains no activities that would result in a change in land use. The proposed program would simply consist of the installation of new subsurface fiber conduit along roadway rights-of-way and aboveground fiber optic lines utilizing existing or new utility poles and not development of a new land use. Therefore, the proposed program would not be considered a new trip-generating land use project; thus, this section of the State CEQA guidelines does not apply.
- Section 15064.3(b)(2) addresses transportation projects. The proposed program does not include any new permanent transportation or roadway improvements. Therefore, this section does not apply.
- Section 15064.3(b)(3), Qualitative Analysis, states that if existing models or methods are not available to estimate the VMT for the particular project being considered, a lead agency may analyze the project's VMT qualitatively.

Additionally, this section notes that for many projects, a qualitative analysis of construction traffic may be appropriate. Given the nature of the proposed program and the fact that any trip generation is almost entirely construction related, this section is applicable to the proposed program.

- Section 15064.3(b)(4), Methodology, explains that the lead agency has discretion to choose the most appropriate methodology to evaluate VMT subject to other applicable standards, such as State CEQA Guidelines Section 15151 (standards of adequacy for EIR analyses).

Relevant to calculating trips is Section 15064.3(a), which states, "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks (OPR 2018). Heavy-duty truck VMT could be included for modeling convenience and ease of calculation (for example, where models or data provide combined auto and heavy truck VMT), but need not be. Therefore, larger on-road construction vehicles that do not fall within the categories of cars and light trucks do not need to be considered in calculations of trips or VMT.

The proposed program would generate a minimal number of new operational vehicular trips (versus construction vehicular trips), such as routine vault maintenance activities, and these trips would occur intermittently across a limited number of days each month and would be dispersed across various locations throughout the county. Because of the variability of the location and the intermittent and infrequent nature of the trips generated by these activities, the number of new operational vehicle trips and trip lengths cannot be predicted with any accuracy. Additionally, these operational activities are generally consistent with construction activities in terms of the temporary nature of activities, trip generation characteristics, and types of vehicles and equipment required.

The NCTC and OPR guidance describes no scenario analogous to the program and managing trip length is not feasible for such a program because of the variability in location of individual fiber projects and the broad geography of the program area. Therefore, qualitative analysis allowed by Section 15064.3(b)(3) provides the most applicable approach for analyzing the change in VMT resulting from implementation of the proposed program.

THRESHOLDS OF SIGNIFICANCE

The significance criteria used to evaluate the proposed program impacts to transportation and traffic under CEQA are based on Appendix G of the State CEQA Guidelines. Transportation impacts would be significant if the program would:

- conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes and pedestrian paths;
- conflict or be inconsistent with State CEQA Guidelines Section 15064.3, Subdivision (b) Regarding Vehicle Miles Traveled
- substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- result in inadequate emergency access.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.10-1: Conflict with a Plan, Ordinance or Policy Addressing the Circulation System, including Transit, Roadways, Bicycle Lanes and Pedestrian Paths

Construction activities associated with the individual fiber projects under the proposed Nevada County Broadband Program would be temporary and would not conflict any existing pedestrian, bicycle, or transit facilities. Additionally, the operation of individual fiber projects would only involve routine maintenance to check the vaults that access the fiber optic line; thus, the proposed program would not be subject to providing off-site improvements in conformance with applicable General Plan policies as it is not a development project. Finally, the proposed program would not generate bicycle and transit facility use. Therefore, the proposed program would not conflict with a plan, ordinance, or policy addressing the circulation system. The impact would be **less than significant**.

Construction of individual fiber projects under the proposed program would begin in Spring of 2023 and would be temporary in nature. By their localized nature, they would not damage or remove any existing bicycle, pedestrian, or transit facilities. As detailed in the Chapter 2, "Project Description," if any areas are disturbed during construction, they would be returned to their original or better condition by replacing all asphalt, landscaping, or any earthen areas. Site clean-up and surface restoration would be performed promptly following conduit and cable installation. The proposed program is not a land use development project and other than minor maintenance would not include operational activities; thus, the proposed program is not subject to providing planned or programmed facility improvements in the program area. Additionally, the proposed program would not increase bicycle facility use or transit ridership, because there would be no operational activity associated to the proposed program that would generate such trips. For these reasons, the program would not conflict or be inconsistent with a plan, ordinance or policy addressing the circulation system, and the impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.10-2: Conflict or be Inconsistent with State CEQA Guidelines Section 15064.3(b) Regarding Vehicle Miles Traveled

Construction activities associated with the individual fiber installation projects under the proposed program would be temporary and intermittent. Construction worker trips would be distributed throughout the region based on work site location; thus, VMT related to the proposed program construction would not be newly generated. Additionally, operational activities would only involve routine maintenance, which would be temporary and require a minimal number of personnel. Therefore, the proposed program would not conflict or be inconsistent with State CEQA Guidelines Section 15064.3(b) regarding VMT. The impact would be **less than significant**.

As detailed above in the "Methodology" section, State CEQA Guidelines Section 15064.3(b)(3), Qualitative Analysis, states that a project may be analyzed qualitatively if modeling or methodology does not exist to adequately evaluate a particular project. Additionally, State CEQA Guidelines Section 15064.3(b)(4), Methodology, allows lead agencies the discretion to choose the most appropriate approach to analyze a project's impacts to VMT. Because the proposed program does not involve any development or land use changes, the VMT analysis herein relies primarily on construction worker commute trips and those maintenance trips associated with operational activities of the proposed program.

Construction of the proposed program would begin as early as spring 2023. Construction activities would be temporary and intermittent in nature; and thus, would not result in long-term increases in vehicular trips. Additionally, the VMT generated by construction workers during construction would not be newly generated; instead, the VMT would be redistributed throughout the regional roadway network based on the different individual fiber project sites in which workers travel to each day. Therefore, construction workers would not generate new VMT each day; it would only be redistributed.

The program would not involve operational trips other than routine maintenance to check the vaults that access the fiber optic line. These types of trips would remain far below the 110 trips per day threshold established in the SB 743 Vehicle Miles Traveled Implementation guidance developed by NCTC and consistent with OPR's Technical Advisory screening criteria for small projects. Additionally, for individual fiber projects in the Town of Truckee boundaries, because the proposed program would be a non-residential utility project it would be screened from a detailed VMT analysis based on Town of Truckee VMT Thresholds of Significance guidance. Therefore, construction and operational activities would not significantly increase VMT in the region. For this reason, the proposed program would not conflict or be inconsistent with State CEQA Guidelines Section 15064.3 and the impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.10-3: Substantially Increase Hazards Due to a Geometric Design Feature (e.g., Sharp Curves or Dangerous Intersections) or Incompatible Uses (e.g., Farm Equipment)

Individual fiber projects under the proposed program would be required to obtain encroachment permits from the appropriate jurisdiction before construction. Encroachment permits in the region are contingent upon approval of a TCP, which would plan for proper traffic handling, and the rerouting of all travel modes if needed, to minimize potential transportation hazards. Additionally, all resurfacing activities to repair damaged pavement would be promptly implemented and would meet all applicable roadway design standards leaving the individual fiber project sites in their original or better condition. Therefore, the proposed program would not substantially increase transportation hazards. The impact would be **less than significant**.

Construction activities would begin as early as spring 2023. Construction activities would occur from 7:00 a.m. to 6:00 p.m. on weekdays (or within the most restrictive hours for noise control purposes). Individual fiber project applicants would be required to obtain encroachment permits from each jurisdiction where work would be performed depending on each individual project's location. A TCP would be developed in accordance with local regulations to demonstrate appropriate traffic handling during construction activities for all work that will or may impact the traveling public. All subsurface fiber conduit installation along two-lane roadways would maintain access via a passing lane. The TCP would demonstrate the rerouting of vehicles when work would be performed along single lane roadways. Project materials would be subject to review and approval by each jurisdiction where work would be performed ensuring transportation-related hazards during construction would be minimized to the greatest extent. Additionally, individual fiber projects would be required to meet all roadway design standards of each local jurisdiction where work would take place as it pertains to resurfacing activities. These include the Nevada County Department of Public Works Road Standards and Drawings as well as requirements found in each jurisdiction's municipal code and encroachment permit as described in Section 3.10.1, "Regulatory Setting," above. As detailed in Chapter 2, "Project Description," any disturbed areas would be returned to their original or better condition promptly following construction. For these reasons, the program would not substantially increase hazards during construction or operational maintenance, and the impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

Impact 3.10-3: Result in Inadequate Emergency Access

Individual fiber projects under the proposed program would follow all safety protocol and comply with local emergency access regulations. Each project would be subject to review by the jurisdiction in which work would be performed to ensure the planned construction activities and the TCP would allow for adequate emergency access at all times. Operational activities would only include routine maintenance which would not affect any public or private roadways or have the potential to block emergency vehicles. Therefore, the proposed program would not result in inadequate emergency access. The impact would be **less than significant**.

As discussed in Impact 3.10-3 above, all improvements related to the proposed program would meet the design standards and safety protocols set forth in each applicable jurisdiction's guidelines and policies while construction activities are performed. The TCP prepared for each individual project would also be designed to ensure emergency access would be maintained at all times. As detailed above, individual fiber projects implemented under the program would be subject to review and approval by the jurisdiction where construction would take place, likely including their emergency service departments (e.g., fire districts, police department). Additionally, the individual fiber projects would be required follow standards set forth in the 2019 California Fire Code as adopted by the City of Nevada, City of Grass Valley, Town of Truckee, and Nevada County. Section 3310.1 of the 2019 California Fire Code identifies minimum requirements to provide required emergency access during construction activities. Operational activities only include routine maintenance, which would not adversely affect the surrounding transportation network. Thus, construction and operational activities related to the implementation of the proposed program would not result in inadequate emergency access. For these reasons, the program would not result in adequate emergency access, and the impact would be **less than significant**.

Mitigation Measures

No mitigation is required for this impact.

CUMULATIVE IMPACTS

The geographic scope of the cumulative transportation analysis covers the program area and the surrounding roadway network. If construction of other projects occur simultaneously with construction activities for the proposed program and affect the same roadways, a significant cumulative effect to traffic could occur.

The proposed program would not result in the generation of operational vehicular trips to the same location over the long term, and thus, would not result in permanent traffic operations impacts on a roadway or highway. Therefore, cumulative transportation impacts would be associated with short-term transportation effects that would occur during the construction.

The proposed program would result in construction within public or private roads and previously disturbed and/or developed areas. Therefore, it is possible that it could increase hazards because of a design feature or incompatible uses and lane closures along the surrounding roadway network. In addition, construction associated with the proposed program could potentially impede or delay emergency access. However, as detailed in Chapter 2, "Project Description," the proposed program would reduce temporary traffic hazards and affects to emergency access by requiring construction contractors to prepare and implement TCPs that meet with the approval of the applicable agency in which each individual project is located.

Construction of individual fiber optic projects would be temporary and/or intermittent, and the number of trips generated by the short-term construction, and long-term operational (and intermittent) maintenance activities of each would be minimal. Therefore, the combined number of average daily project-generated trips would not exceed 110. As described in NCTC's Senate Bill 743 Vehicle Miles Traveled Implementation guidance, projects consistent with an RTP or General Plan that attract fewer than 110 trips per day are presumed to result in a less-than-significant VMT impact. Additionally, the *Technical Advisory on Evaluating Transportation Impacts*, if a project generates fewer than 110 trips per day, it can be screened from a detailed VMT analysis and is generally assumed to cause a less-than-significant VMT impact. Therefore, the proposed program would have a **less than cumulatively considerable impact** related to transportation.

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4 ALTERNATIVES

4.1 INTRODUCTION

The California Code of Regulations (CCR) Section 15126.6(a) (State CEQA Guidelines) requires EIRs to describe "… a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather, it must consider a range of potentially feasible alternatives that will avoid or substantially lessen the significant adverse impacts of a project, and foster informed decision making and public participation. An EIR is not required to consider alternatives that are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason." This section of the State CEQA Guidelines also provides guidance regarding what the alternatives analysis should consider. Subsection (b) further states the purpose of the alternatives analysis is as follows:

> Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code [PRC] Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly.

The State CEQA Guidelines require that the EIR include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed program. If an alternative would cause one or more significant effects in addition to those that would be caused by the program as proposed, the significant effects of the alternative must be discussed, but in less detail than the significant effects of the program as proposed (CCR Section 15126.6[d]).

The State CEQA Guidelines further require that the "no project" alternative be considered (CCR Section 15126.6[e]). The purpose of describing and analyzing a no project alternative is to allow decision makers to compare the impacts of approving a proposed project with the impacts of not approving the proposed project. If the no project alternative is the environmentally superior alternative, CEQA requires that the EIR "…shall also identify an environmentally superior alternative among the other alternatives." (CCR Section 15126.6[e][2]).

In defining "feasibility" (e.g., "… feasibly attain most of the basic objectives of the project …"), CCR Section 15126.6(f)(1) states, in part:

> Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.

In determining what alternatives should be considered in the EIR, it is important to consider the objectives of the project, the project's significant effects, and unique project considerations. These factors are crucial to the development of alternatives that meet the criteria specified in Section 15126.6(a). Although, as noted above, EIRs must contain a discussion of "potentially feasible" alternatives, the ultimate determination as to whether an alternative is feasible or infeasible is made by the lead agency's decision-making body, the Nevada County Board of Supervisors. (See PRC Sections 21081.5, 21081[a][3].)

4.2 CONSIDERATIONS FOR SELECTION OF ALTERNATIVES

The State CEQA Guidelines Section 15126.6(c) provides the following guidance in selecting a range of reasonable alternatives for the proposed program. The range of potential alternatives to the proposed program must include those that could feasibly accomplish most of the basic objectives of the program (listed below and in Section 2.2, "Project Objectives," in Chapter 2, "Project Description") and avoid or substantially lessen one or more of the significant effects of the program, as summarized in Section 4.2.2 below. It is important to note, however, that this EIR did not identify any significant unavoidable impacts of the program; all impacts are mitigable to less-than-significant levels. Therefore, discussions of a given alternative's ability to reduce impacts should be considered in that context—certain impacts may be somewhat reduced by an alternative, but not from significant levels to less-than-significant levels.

4.2.1 Attainment of Project Objectives

As described above, one factor that must be considered in selection of alternatives is the ability of a specific alternative to attain most of the basic objectives of the program (CCR Section 15126.6[a]). Chapter 2, "Project Description," articulates the following program objectives to:

- provide reliable upgradable and expandable high-speed broadband capacity in the proposed service areas with minimum speeds of 25 megabits per second (Mbps) for downloads and 5 Mbps for uploads, consistent with the federal definition of "adequate service" for broadband and California's definition of broadband;
- provide a wireless broadband network in unserved and underserved areas of Nevada County;
- enable an increase in telecommuting, with a commensurate decrease in vehicle miles traveled;
- provide broadband infrastructure to support future statewide interconnection of major public safety answering points and a future statewide public safety network;
- enable connection of health facilities in the county through the California Telehealth Network;
- streamline the environmental review process for individual broadband projects that are implemented in the county;
- provide a reliable foundation of data and acceptable methodology to assess impacts for any specific broadband deployment project;
- identify known environmental and cultural assets to be protected and/or restored with an approved set of preservation measures and/or mitigations; and
- save time and money for both the county of Nevada and broadband project applicants, resulting in greater government and economic efficiencies, reducing the amount of county staff time required to review broadband projects and avoiding duplication of applicant costs.

4.2.2 Environmental Impacts of the Nevada County Broadband Program

Sections 3.2 through 3.10 of this Draft EIR address the environmental impacts of implementation of the proposed Nevada County Broadband Program. Potentially feasible alternatives were developed with consideration of avoiding or lessening the significant, and potentially significant, adverse impacts of the program, as identified in Chapter 3 of this Draft EIR and summarized in Table ES-1 in the "Executive Summary" chapter. As described in Table ES-1 and Sections 3.2 through 3.10, for the following resource areas the proposed program could result in significant or potentially significant impacts that would be reduced to less-than-significant levels with the incorporation of mitigation:

- Archaeological, Historical, and Tribal Cultural Resources;
- Biological Resources;

- Geology, Soils, and Mineral Resources;
- Hazards and Hazardous Materials;
- Hydrology and Water Quality; and
- Noise.

No significant and unavoidable environmental impacts resulting from the program were identified.

4.3 ALTERNATIVES CONSIDERED BUT NOT EVALUATED FURTHER

In accordance with CEQA Guidelines Section 15126.6(c), determining what alternatives should be addressed in the EIR, Nevada County considered alternatives that would involve aerial installation only, thereby avoiding ground disturbance; underground installation only, which would avoid potential aesthetic impacts; and an alternative that would solely utilize existing infrastructure (conduit and utility poles), which would minimize construction impacts. These alternatives, described in more detail below, were determined to be infeasible and were rejected from further consideration in the EIR.

4.3.1 Aerial Installation Only

This alternative would include only projects that install aboveground fiber optic line that would utilize existing or newly constructed utility poles. No underground fiber optic line or new conduit would be installed under this alternative. This alternative was considered because it would avoid all impacts associated with underground installation, including construction impacts associated with directional drilling, trenching, microtrenching, and plowing. This alternative could avoid the significant and unavoidable water quality impact of the proposed program associated the spillage of drilling fluid. However, this alternative would not meet the basic project objectives associated with providing a reliable system of broadband communications. Aboveground fiber optic lines are susceptible to damage from high winds, snowstorms, wildfires, and other natural disasters. Such damage would reduce the reliability of communications system, which could disrupt emergency communications during extreme storms, wildfires, or other emergency conditions when reliable communication is most important. Furthermore, this alternative would result in additional aesthetics impacts associated with the additional utility poles. In addition, this alternative would off limited benefits over Alternative 3, Existing Infrastructure Alternative, which is described below and evaluated in detail. For these reasons, this alternative was not selected for detailed analysis.

4.3.2 Underground Installation Only

This alternative would include only projects that install underground fiber optic line that would utilize existing or newly installed underground conduit. No aboveground fiber optic line would be installed under this alternative. This alternative was considered because it would avoid all impacts associated with aboveground installation, including aesthetic impacts and construction impacts associated with the installation of new utility poles and stringing fiber optic line on existing poles. However, this alternative would not be feasible because many areas within Nevada County contain shallow bedrock, extremely rocky soils, and/or steep topography that would make subsurface drilling or excavation infeasible with available technologies. Therefore, this alternative is not selected for detailed analysis.

4.3.3 Use of Existing Infrastructure Only

This alternative would include only projects that install fiber optic line in existing conduit or along existing utility poles. This alternative was considered because it would avoid impacts associated with installation of new utility pole and conduit infrastructure. This alternative would avoid or substantially reduce all significant and unavoidable impacts associated with the proposed program. However, it would not meet most of the basic objectives of the program because it would not provide for the expansion of broadband infrastructure into portions of the service area that do

not already include sufficient conduit, utility poles, and supporting infrastructure. Therefore, this alternative is not selected for detailed analysis.

4.4 ALTERNATIVES SELECTED FOR DETAILED ANALYSIS

The following alternatives evaluated in this Draft EIR.

- Alternative 1: No Project Alternative assumes no additional broadband infrastructure would be installed and broadband capacity would be unchanged from existing conditions.
- Alternative 2: Reduced Program Area Alternative would focus on rural broadband infrastructure and exclude the incorporated areas of the Town of Truckee, City of Grass Valley, and Nevada City from the program area as a strategy to reduce construction effects in more densely populated areas.
- Alternative 3: Existing Infrastructure Alternative would prioritize the use of existing utility poles or underground conduit wherever it exists. New underground conduit would only be installed in areas where no existing aboveground or belowground infrastructure exists. This alternative is intended to reduce impacts associated with new infrastructure installation.

Further details on these alternatives, and an evaluation of environmental effects relative to the proposed program, are provided below.

4.4.1 Alternative 1: No Project Alternative

Under Alternative 1, the No Project Alternative, no actions would be taken to expand broadband availability and the service area would remain unchanged from current conditions. The No Project Alternative would not meet the project objectives. However, as required by CEQA, the No Project Alternative is evaluated in this Draft EIR.

Although it is acknowledged that with the No Project Alternative, there would be no discretionary action by Nevada County, and thus no impact, for purposes of comparison with the other action alternatives, conclusions for each technical area are characterized as "impacts" that are greater, similar, or less, to describe conditions that are worse than, similar to, or better than those of the proposed program.

AESTHETICS

Under the No Project Alternative, no construction would occur, and no new broadband infrastructure would be installed. Because there would be no visible changes in the service area, there would be no effects on scenic vistas, no damage to scenic resources adjacent to a state scenic highway, no degradation of scenic character or views, and no conflict with scenic regulations. Thus, there would be no impact to aesthetics. (*No Impact*)

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

No construction, excavation, or ground disturbance would occur under the No Project Alternative. Therefore, there would be no effects on historic resources, unique archeological resources, or tribal cultural resources. Because no construction would occur under the No Project Alternative, there would also be no risk of disturbing human remains. For these reasons, the No Project Alternative would have no impact on archeological, historical, and tribal cultural resources. (*No Impact*)

BIOLOGICAL RESOURCES

Because no construction, excavation, or ground disturbance would occur under the No Project Alternative, there would be no effects on biological resources. The No Project Alternative would not affect special-status species or habitat, critical habitat for Sierra-Nevada Yellow-legged Frog and California Red-legged Frog, or riparian habitat or

other sensitive natural communities. Nor would it degrade wetlands, interfere with wildlife movement corridors or nursery sites, or conflict with local ordinances or policies. For these reasons, the No Action Alternative would have no impact on biological resources. (*No Impact*)

GEOLOGY, SOILS, AND MINERAL RESOURCES

With the No Project Alternative, no construction, excavation, or ground disturbance would occur. Because no changes would occur, the No Project Alternative would not expose people or structures to adverse seismic impacts, result in substantial erosion or loss of topsoil, or expose infrastructure to or cause geologic hazards. Similarly, this alternative would not result in the loss of a unique paleontological resource or geologic feature or result in the loss of availability of a known mineral resource or locally important mineral resource recovery site. For these reasons, the No Project Alternative would have no impact on geology, soils, and mineral resources. (*No Impact*)

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Under the No Project Alternative, no construction or operation of additional broadband infrastructure would occur. As a result, there would be no construction-related GHG emissions, and no GHG emissions would occur from operating new broadband infrastructure. Thus, there would be no impact to greenhouse gas emissions and climate change. (*No Impact*)

HAZARDS AND HAZARDOUS MATERIALS

No construction would occur, and no new broadband infrastructure would be installed under the No Project Alternative. Because there would be no construction or operation of new broadband infrastructure, there would be no risk of exposure to hazards from the routine transport, use, or disposal of hazardous materials. Similarly, there would be no risk of upset or accident conditions or development on a hazardous waste site, and no risk of emitting or handling hazardous materials near a school. The No Project Alternative would also not result in hazards due to construction near an airport, conflict with an emergency response or evacuation plan, or increase wildfire risk or exposure to wildfire. For these reasons, there would be no impact associated with hazards and hazardous materials. (*No Impact*)

HYDROLOGY AND WATER QUALITY

Because no construction, excavation, or ground disturbance would occur under the No Project Alternative, the alternative would not affect hydrology and water quality. With no construction activities or new infrastructure, the No Project Alternative would not violate any water quality standards or degrade surface or groundwater quality, nor would it affect groundwater supply or result in substantial erosion, flooding, or runoff. The No Project Alternative would also not change the existing risk of the release of pollutants due to inundation for seiche or flood. Therefore, the No Action Alternative would have no impact on hydrology and water quality. (*No Impact*)

NOISE

Under the No Project Alternative, no construction or operation of additional broadband infrastructure would occur. As a result, there would be no construction noise. Thus, there would be no impact related to noise. (*No Impact*)

TRANSPORTATION

The No Project Alternative would not affect transportation because it would not result in the construction or operation of new broadband infrastructure. Because there would be no construction activity or new infrastructure, the alternative would not conflict with plans, ordinances, or policies addressing the circulation system; nor would it affect vehicle miles travelled. Similarly, the No Project Alternative would not substantially increase transportation

hazards or result in inadequate emergency access. For these reasons, there would be no impact to transportation and traffic. (*No Impact*)

4.4.2 Alternative 2: Reduced Program Area Alternative

The Reduced Program Area Alternative would focus on providing rural broadband infrastructure in unincorporated areas of Nevada County. It would exclude the incorporated areas within the Town of Truckee, City of Grass Valley, and Nevada City from the program area. This would reduce the area covered by the program by approximately 41 square miles or 4.2 percent when compared to the proposed program. This alternative would reduce the total amount of construction that would occur under the program and would avoid all effects related to the construction or operation of broadband infrastructure within the more densely populated incorporated areas of the county.

In all other respects, this alternative would be the same as the proposed program. It would include the same connections to existing facilities, new facilities, and construction methods as the proposed program (See Chapter 2, "Project Description"), except these activities would occur only in unincorporated portions of Nevada County.

AESTHETICS

Under the Reduced Program Area Alternative, less construction would occur, and less new broadband infrastructure would be installed than under the proposed program. In the unincorporated portions of the county, the effects on scenic vistas, potential for damage to scenic resources adjacent to a state scenic highway, and the potential for degradation of scenic character or views would be the same as the proposed program. This alternative would avoid all affects to aesthetics within the City of Grass Valley, Nevada City, and the Town of Truckee. Because no changes would occur in the urbanized portions of the county, there would be no impact related to a conflict with scenic regulations in urban areas. Thus, there would be a similar but slightly reduced impact to aesthetics. (*Similar to Slightly Less Impact*)

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

The Reduced Program Area Alternative would result in slightly less construction, excavation, and ground disturbance than the proposed program because it would not involve broadband infrastructure in the incorporated portions of Nevada County. Overall, the effects on historic resources, unique archaeological resources, tribal cultural resources, and human remains would be similar to the proposed program because this alternative would include the same construction activities within a similar albeit slightly smaller program area. Because this alternative would have a slightly smaller footprint, it would have a slightly reduced impact on archaeological, historical, and tribal cultural resources. (*Similar to Slightly Less Impact*)

BIOLOGICAL RESOURCES

Because slightly less construction, excavation, and ground disturbance would occur under the Reduced Program Area Alternative, there would be slightly less effects on biological resources than the proposed program. Because most special-status species and habitat, critical habitat for Sierra-Nevada Yellow-legged Frog and California Red-legged Frog, and riparian habitat and other sensitive natural communities occur outside of the more urbanized areas within the incorporated communities, the effects on these resources would be similar to the proposed program, although slightly reduced. The effects related to degrading wetlands, interfere with wildlife movement corridors or nursery sites would be slightly reduced. Because there would be fewer local ordinances and policies in unincorporated areas, the potential for conflicts with local ordinances or policies would be reduced. For these reasons, the Reduced Program Area Alternative would have a similar but incrementally reduced impact on biological resources. (*Similar to Slightly Less Impact*)

GEOLOGY, SOILS, AND MINERAL RESOURCES

With the Reduced Program Area Alternative, slightly less construction, excavation, and ground disturbance would occur than under the proposed program. Because slightly less broadband infrastructure would be constructed and operated, this alternative would have a somewhat reduced risk of exposing people or structures to adverse seismic impacts, resulting in substantial erosion or loss of topsoil, or exposing infrastructure to or cause geologic hazards. Similarly, this alternative would have a slightly reduced risk of the loss of a unique paleontological resource or geologic feature, or the loss of availability of a known mineral resource or locally important mineral resource recovery site. For these reasons, the Reduced Program Area Alternative would have a similar but slightly reduced impact on geology, soils, and mineral resources. (*Similar to Slightly Less Impact*)

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Under the Reduced Program Area Alternative, slightly less construction and operation of additional broadband infrastructure would occur. As a result, there would be somewhat less construction-related GHG emissions and GHG emissions from the operation of new broadband infrastructure. Therefore, the impact related to greenhouse gas emissions and climate change would be similar to the proposed program, but slightly less. (*Similar to Slightly Less Impact*)

HAZARDS AND HAZARDOUS MATERIALS

The Reduced Program Area Alternative would include the same construction methods as the proposed program but would result in slightly less construction and a commensurate reduction in risk of exposure to hazards from the routine transport, use, or disposal of hazardous materials. Similarly, there would be a somewhat reduced risks of upset or accident conditions, emitting or handling hazardous materials near a school, hazard potential due to construction near an airport, conflict with an emergency response or evacuation plan, and wildfire. For these reasons, the impacts associated with hazards and hazardous materials would be similar but slightly less than the proposed program. (*Similar to Slightly Less Impact*)

HYDROLOGY AND WATER QUALITY

Because there would be the same construction methods, but slightly less construction, excavation, and ground disturbance than the proposed program, this alternative would have similar but slightly reduced impacts on hydrology and water quality, including potential to violate water quality standards, degrade surface or groundwater quality, result in erosion, or release pollutants due to inundation from seiche or flood. Therefore, this alternative would have a similar but slightly reduced impact on hydrology and water quality. (*Similar to Slightly Less Impact*)

NOISE

Under the Reduced Program Area Alternative, the same construction methods would be used, but there would be slightly less construction and operation of broadband infrastructure. As a result, there would be similar noise levels at construction sites. Because this alternative would not result in construction within the more densely populated incorporated areas of the Town of Truckee, Nevada City, and Grass Valley, it would reduce the potential to affect sensitive receptors during construction. Thus, there would be a similar but slightly reduced impact related to noise. (*Similar to Slightly Less Impact*)

TRANSPORTATION

The Reduced Program Area Alternative would have similar but slightly less effects on transportation or traffic because it would result in the same construction methods and operation of the same new broadband infrastructure albeit in fewer locations than the proposed program. Because there would be slightly less construction activity and new infrastructure, the alternative would have somewhat reduced potential to conflict with plans, ordinances, or policies

addressing the circulation system; affect vehicle miles traveled; cause transportation hazards; or affect emergency access. For these reasons, there would be a similar but slightly reduced impact to transportation. (*Similar to Slightly Less Impact*)

4.4.3 Alternative 3: Existing Infrastructure Alternative

The Existing Infrastructure Alternative would seek to minimize construction-related impacts by prioritizing the use of existing utility poles or underground conduit wherever it exists. New underground conduit would only be installed in areas where no existing aboveground or belowground infrastructure exists. In all other respects, this alternative would be the same as the proposed program. It would include the same connections to existing facilities, new facilities, and construction methods as the proposed program (See Chapter 2, "Project Description"), except these activities would occur only when no existing infrastructure is present. This alternative would result in less construction activity and new infrastructure than the proposed program. It would also result in more aboveground fiber optic line because much of the line would be attached to existing utility poles, rather than being placed in new underground conduit as would occur under the proposed program. This alternative is intended to reduce impacts associated with new infrastructure installation including reducing all three significant and unavoidable impacts.

AESTHETICS

Under the Existing Infrastructure Alternative, less construction would occur, and less underground broadband infrastructure would be installed than under the proposed program because more fiber optic line would be attached to existing aboveground utility poles. The reduction in construction activities and new underground infrastructure would not substantially reduce impacts to aesthetics because construction activities would be temporary and underground infrastructure would not be visible. The additional fiber optic line on existing utility poles would not meaningfully degrade scenic quality when compared to the proposed program because the most visible portion of the aboveground infrastructure, the utility poles, already exist and would be unchanged. Thus, there would be a similar impact to aesthetics as under the proposed program. (*Similar Impact*)

ARCHAEOLOGICAL, HISTORICAL, AND TRIBAL CULTURAL RESOURCES

The Existing Infrastructure Alternative would result in less construction, excavation, and ground disturbance than the proposed program because it would not involve less new underground infrastructure. Overall, the effects on historic resources, unique archeological resources, tribal cultural resources, and human remains would be less than the proposed program because this alternative would include the same construction activities, but the construction would only occur where existing infrastructure could not be used. Because this alternative would have less construction, it would have a reduced impact on archeological, historical, and tribal cultural resources. (*Less Impact*)

BIOLOGICAL RESOURCES

Because less construction, excavation, and ground disturbance would occur under the Existing Infrastructure Alternative, there would be reduced effects on biological resources compared to the proposed program. Less construction would result in less potential to degrade special-status species and habitat, critical habitat for Sierra-Nevada Yellow-legged Frog and California Red-legged Frog, and riparian habitat or other sensitive natural communities. The effects related to degrading wetlands, interfere with wildlife movement corridors or nursery sites would also be reduced. Because this alternative would still include the same construction methods the potential for conflicts with local ordinances or policies would be similar but slightly reduced. For these reasons, the Existing Infrastructure Alternative would have a reduced impact on biological resources. (*Less Impact*)

GEOLOGY, SOILS, AND MINERAL RESOURCES

With the Existing Infrastructure Alternative, less construction, excavation, and ground disturbance would occur than under the proposed program. Because less new underground broadband infrastructure would be constructed, this alternative would have a slightly reduced risk of exposing people or structures to adverse seismic impacts, and less risk of substantial erosion or loss of topsoil, or exposing infrastructure to or cause geologic hazards. Similarly, this alternative would have a reduced risk of the loss of a unique paleontological resource or geologic feature, or the loss of availability of a known mineral resource or locally important mineral resource recovery site. For these reasons, the Existing Infrastructure Alternative would have a reduced impact on geology, soils, and mineral resources. (*Less Impact*)

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Under the Existing Infrastructure Alternative, less construction of new broadband infrastructure would occur, including less excavation, drilling, and installation of new underground conduit. As a result, there would be less construction-related GHG emissions. Therefore, the impact related to greenhouse gas emissions and climate change would be less than the proposed program. (*Less Impact*)

HAZARDS AND HAZARDOUS MATERIALS

The Existing Infrastructure Alternative would include the same construction methods as the proposed program but would result in less overall construction of new infrastructure because existing utility lines and conduit would be used wherever they exist. Because there would be less construction of new broadband infrastructure, there would be less risk of exposure to hazards from the routine transport, use, or disposal of hazardous materials; upset or accident conditions; emitting or handling hazardous materials near a school; hazards due to construction near an airport; conflict with an emergency response or evacuation plan; and wildfire. For these reasons, the impacts associated with hazards and hazardous materials would be similar but less than the proposed program. (*Less Impact*)

HYDROLOGY AND WATER QUALITY

Because this alternative would use the same construction methods but result in less construction, excavation, and ground disturbance than the proposed program, this alternative would have similar but reduced impacts on hydrology and water quality. With less construction activities and new infrastructure, the Existing Infrastructure Alternative would have reduced potential to violate water quality standards; degrade surface or groundwater quality; affect groundwater supply; or result in substantial erosion, flooding, or runoff. This alternative would also not change the existing risk of the release of pollutants due to inundation for seiche or flood. Therefore, the alternative would have a reduced impact on hydrology and water quality. (*Less Impact*)

NOISE

Under the Existing Infrastructure Alternative, the same construction methods would be used as in the proposed program, but there would be less construction of new broadband infrastructure because existing utility poles and conduit would be used wherever they exist. As a result, there would be similar noise levels at construction sites where new infrastructure must be installed, but there would be less noise overall. Thus, there would be a lesser impact related to noise. (*Less Impact*)

TRANSPORTATION

The Existing Infrastructure Alternative would have similar but slightly reduced effects on transportation because it would result in the same construction methods and operation of the same types new broadband infrastructure, but construction would occur in fewer locations than the proposed program. Because there would be less construction activity and new infrastructure, the alternative would have less potential to conflict with plans, ordinances, or policies addressing the circulation system; or affect vehicle miles travelled. Similarly, the alternative would have a reduced

potential to increase transportation hazards or result in inadequate emergency access. For these reasons, there would be a similar but lesser impact to transportation and traffic. (*Less Impact*)

4.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Because the No Project Alternative (described above in Section 4.4.1) would avoid all adverse impacts resulting from construction and operation of the proposed program analyzed in Chapter 3, it is the environmentally superior alternative. However, the No Project Alternative would not meet the objectives the program as presented above in Section 4.2.1.

When the environmentally superior alternative is the No Project Alternative, the State CEQA Guidelines (Section 15126[d][2]) require selection of an environmentally superior alternative from among the other action alternatives evaluated. As illustrated in Table 4-1, below, both Alternatives 2 and 3 would provide some environmental advantages over the proposed program.

The Reduced Program Area Alternative (Alternative 2) would result in less overall construction and operation of broadband infrastructure by avoiding all activities within incorporated communities. This would result in incrementally reduced impacts to all resource areas. While this alternative is feasible and would achieve most of the basic project objectives, it would achieve the project objectives to a lesser degree than the proposed program because it would not improve broadband availability or reliability within the Town of Truckee, City of Grass Valley, or Nevada City, and would not provide benefits to the approximately 32,500 residents of those three incorporated communities.

The Existing Infrastructure Alternative would result in less overall construction of broadband infrastructure than both the proposed program and Alternative 2 because it would use existing utility poles and conduit and only construct new conduit where no existing infrastructure is available. This alternative would result in more fiber optic line installed aboveground on existing utility poles. This alternative would result in similar impacts to aesthetics and lesser impacts to all other resource areas. While this alternative would lessen multiple environmental impacts, it would result in a less reliable broadband network due to the increased prevalence of aboveground fiber optic line that could be affected by wildfires. This would achieve the project objectives to a lesser degree than the proposed program.

As described above, both Alternatives 2 and 3 would offer different environmental benefits when compared to the proposed program. Both of these alternatives are potentially feasible and would achieve most of the basic project objectives, although project objectives would be achieved to a lesser degree than under the proposed program. Alternative 3: Existing Infrastructure Alternative, is the environmentally superior alternative because it would slightly reduce all other impacts associated with the proposed program.

Table 4-1 Summary of Environmental Effects of the Alternatives Relative to the Proposed Program

Environmental Topic	Proposed Program	Alternative 1: No Project Alternative	Alternative 2: Reduced Program Area Alternative	Alternative 3: Existing Infrastructure Alternative
Aesthetics	LTSM	No Impact	Similar to Slightly Less	Similar
Archaeological, Historical, and Tribal Cultural Resources	LTSM	No Impact	Similar to Slightly Less	Less Impact
Biological Resources	LTSM	No Impact	Similar to Slightly Less	Less Impact
Geology, Soils, and Mineral Resources	LTSM	No Impact	Similar to Slightly Less	Less Impact
Greenhouse Gas Emissions and Climate Change	LTS	No Impact	Similar to Slightly Less	Less Impact
Hazards and Hazardous Materials	LTSM	No Impact	Similar to Slightly Less	Less Impact
Hydrology and Water Quality	LTSM	No Impact	Similar to Slightly Less	Less Impact
Noise	LTSM	No Impact	Similar to Slightly Less	Less Impact
Transportation	LTS	No Impact	Similar to Slightly Less	Less Impact

Notes: LTSM = less than significant with mitigation, LTS = less than significant.

Source: Compiled by Ascent Environmental in 2022.

5 OTHER CEQA-MANDATED SECTIONS

5.1 GROWTH INDUCEMENT

California Environmental Quality Act (CEQA) Section 21100(b)(5) specifies that the growth-inducing impacts of a project must be addressed in an environmental impact report (EIR). Section 15126.2(d) of the State CEQA Guidelines provides the following guidance for assessing growth-inducing impacts of a project:

> Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, discuss the characteristics of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can induce growth directly, indirectly, or both directly and indirectly. Direct growth inducement would result if a project involved construction of new housing. Indirect growth inducement would result, for instance, if implementing a project resulted in any of the following:

- substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises);
- substantial short-term employment opportunities (e.g., construction employment) that indirectly stimulates the need for additional housing and services to support the new temporary employment demand; and/or
- removal of an obstacle to additional growth and development, such as removing a constraint on a required public utility or service (e.g., construction of a major sewer line with excess capacity through an undeveloped area).

Growth inducement itself is not an environmental effect but may foreseeably lead to environmental effects. If substantial growth inducement occurs, it can result in secondary environmental effects, such as increased demand for housing, demand for other community and public services and infrastructure capacity, increased traffic and noise, degradation of air or water quality, degradation or loss of plant or animal habitats, conversion of agricultural and open-space land to urban uses, and other effects.

The effect of the proposed program and other telecommunication projects on growth-inducing impacts is difficult to distinguish from other factors that cause people to move to an area. The availability of high-speed, high-volume communications is one factor among many in the decision by people and businesses to move to an area. The proposed program would not create a significant number of jobs, promote the construction of homes, or remove any obstacle that impedes growth in Nevada County. However, the Nevada County Broadband Program would not directly induce growth for the following reasons:

- As described in Chapter 2, "Project Description," program implementation (i.e., construction of individual fiber projects) is expected to occur over many years, with 1 mile of underground fiber optic conduit construction taking approximately 18-20 days to install the conduit in a trench and 10 days to install the conduit via bore. An average of three to five construction workers would be anticipated at each individual fiber project site for the duration of construction and it is assumed that up to five individual fiber projects could be implemented concurrently. Operation and maintenance of the on-site and off-site facilities would be fulfilled by existing employees of the broadband providers. The program would not generate a sufficient number of jobs, either temporarily during construction or during operation and maintenance, to attract appreciable economic or population growth to Nevada County. Furthermore, the unemployment rate for Nevada County (5.7 percent in

May 2021 and 2.5 percent as of May 2022) suggests an available labor pool for construction of the proposed program (FRED 2022).

- The proposed program would not involve the construction of any new residential units that could bring new residents to Nevada County.
- Operation of the proposed program would provide and expand the availability of high-speed internet access to existing rural residents, businesses, and schools in Nevada County. Implementation of the program would be expected to contribute to the retention of existing residents and businesses, which could indirectly contribute to a limited amount of future growth. The introduction of improved internet access would not be expected to trigger an influx of residents or businesses; thus, the proposed program would not likely result in removal of a substantial obstacle that impedes growth in Nevada County.

5.2 SIGNIFICANT AND UNAVOIDABLE ADVERSE IMPACTS

State CEQA Guidelines Section 15126.2(b) requires that an EIR describe any significant impacts, including those that can be mitigated but not reduced to a less-than-significant level. Sections 3.2 through 3.10 of this EIR address the potential environmental effects associated with the proposed program and recommend mitigation measures, as necessary, to mitigate potential effects associated with program implementation to the extent feasible. The analysis concludes that proposed program would not result in significant and unavoidable impacts.

5.3 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL CHANGES

The State CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by a project. Specifically, State CEQA Guidelines Section 15126.2(c) states:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible, since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as a highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The individual fiber projects implemented under the program would result in the irreversible and irretrievable commitment of energy and materials during construction and operation. Energy would be expended in the form of electricity, gasoline, diesel fuel, and oil for equipment and vehicles that would be needed for project construction, operation, and maintenance. Materials used during fiber optic line installation could include rocks, wood, concrete, glass, and steel. The use of these nonrenewable resources would account for a minimal portion of the region's resources and would not affect the availability of these resources for other needs within the region. Construction contractors for individual fiber projects would use best available engineering techniques, construction and design practices, and equipment operating procedures. Moreover, the program would not require new, permanent dedicated staff in comparison to existing conditions, which would not contribute to a considerable increase in vehicle trips in the region. Therefore, implementing the program would not result in inefficient use of energy.

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Chapter 4 Alternatives

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Chapter 5 Other CEQA-Mandated Sections

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FRED. *See* FRED Economic Data.

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Appendix A

Notice of Preparation and Comments

COUNTY OF NEVADA
COMMUNITY DEVELOPMENT AGENCY
PLANNING DEPARTMENT
950 MAIDU AVENUE NEVADA CITY, CA 95959-8617
(530) 265-1228 FAX (530) 265-9851 http://mynevadacounty.com

Trisha Tillotson
Community Development Agency Director

Brian Foss
Planning Director

Date: December 17, 2021

To: Responsible Agencies, Organizations, and Interested Parties

From: County of Nevada

Contact: Brian Foss, Planning Director
Planning Department
Community Development Agency
950 Maidu Avenue, Suite 170
Nevada City, CA 95959

Subject: Draft Environmental Impact Report for the Nevada County Broadband Project

In discharging its duties under Section 15021 of the State California Environmental Quality Act (CEQA) Guidelines, the County of Nevada (County), as lead agency, intends to prepare an environmental impact report (EIR), consistent with CEQA (Public Resources Code [PRC] Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 1500, et seq.), that addresses the potential physical environmental effects of the Nevada County Broadband Project (proposed program) and the Spiral Fiber Broadband Project (proposed project). In accordance with State CEQA Guidelines Section 15082, the County has prepared this Notice of Preparation (NOP) to provide responsible agencies and other interested parties with sufficient information describing the proposal and its potential environmental effects to meaningfully respond. For more information about the project characteristics please visit https://www.mynevadacounty.com/513/Projects-Supporting-Documents.

As specified by the State CEQA Guidelines, the NOP will be circulated for a 33-day review period. The County welcomes public input during this review. If no response or request for additional time is received from any responsible agency by the end of the review period, the lead agency may presume that the responsible agency has no response.

Written and/or email comments in response to this NOP should be provided to the County at the earliest possible date but must be received by 5:00 p.m. on **January 18, 2022**. Please send all written and email comments to:

Brian Foss, Planning Director
Planning Department
Community Development Agency
950 Maidu Avenue, Suite 170
Nevada City, CA 95959
Telephone: (530) 265-1222 Fax: (530) 265-9854
Email: Brian.Foss@co.nevada.ca.us

Agencies that will need to consider the EIR when deciding whether to issue permits or other approvals for the proposed project should provide the name of a contact person. Comments provided by email should include "Nevada County Broadband Project NOP Scoping Comment" in the subject line, and the name and mailing address of the commenter in the body of the email.

Project Location

The proposed project area includes much of Nevada County, located in the Sierra Nevada and foothills, approximately 30 miles northeast of Sacramento at its closest approach (Figure 1). The area in which future broadband projects could be implemented includes unincorporated areas of the county, City of Grass Valley, Nevada City, and Town of Truckee (Figure 2); it excludes federal lands and highway rights of way. Unincorporated areas expected to be served by future broadband projects include the Donner Pass Road area (including the Serene Lakes area), Kingvale, Soda Springs, Cisco Grove, Washington, and other small communities. The exact alignments of future broadband projects are unknown at this time and would be based on such considerations as construction feasibility, local preference, and locations of sensitive environmental resources. The fiber optic lines would be installed underground in roadway shoulders such that disturbance of roadway surfaces can be largely avoided; however, it is possible some fiber optic line could be installed directly under roadways in areas with limited shoulder space or where existing conduit under the road may be used, avoiding new surface disturbance. Where subsurface installation of fiber optic cable is infeasible, aerial installation on new or existing poles would occur.

The Spiral Fiber project area is located in Nevada City and nearby unincorporated areas to the west, north, and northeast, including the rural, unincorporated communities of Newtown, Willow Valley, Harmony Ridge, Blue Tent, and White Spot (Figure 3).

Project Background and Need

Broadband provides high speed internet access via multiple types of technologies, including fiber optics, wireless, cable, DSL, and satellite. While some areas of the County have sufficient internet speeds for daily work and home life, there are still large portions of the county with no coverage or coverage so slow that it has become prohibitive to perform daily, essential tasks.

The ability to provide broadband internet in the County has been challenging for a several reasons. Primarily, the topography and geography of the county present barriers to the broadband connectivity. Subsurface rock throughout the county is difficult and expensive to trench and dense forests, hills, and canyons obstruct the lines-of-site needed for wireless technology. Also, the rural nature of the county does not support the population density needed to show sufficient returns on investment for some broadband project investors.

Since 2000, the County has played an active role in promoting increased local broadband coverage. Some of the actions and policies that have been implemented to support broadband service and infrastructure include:

- providing grants to fund broadband projects implemented by local internet service providers.
- approving road standards to support an open trench "Dig Once" policy, which maximizes the potential for broadband to be included in any open trench construction activity taking place in the unincorporated county.
- approving the Nevada County Broadband Strategy Plan—a plan created by the Sierra Business Council that outlines various strategies for how broadband can be improved and expanded across the county.
- approving the Last-Mile Broadband Grant—a pilot program to leverage county funds to support the development of Last-Mile Broadband infrastructure in the unincorporated areas of the county to promote economic development. Last-Mile refers to connecting the end-user or customer’s home or business to a local network provider. The development of Last-Mile transmission networks is the most cost-prohibitive component of broadband expansion in the County.

Expansion of broadband service and infrastructure is vital to the communities in the County for many reasons, which include:

- building social and community connections,
- civic engagement and participation,
- economic development and sustainability,
- education and continuous learning,
- health care and tele-health services, and
- recreation and entertainment.

Project Characteristics

As lead agency, the County is proposing a program to expand access to broadband technology throughout the county, including unincorporated areas and the three incorporated cities: Grass Valley, Nevada City, and the Town of Truckee. Installation of fiber optic cable by a variety of potential methods (e.g., underground via directional bore and trenching, and aerial installation) will be evaluated at a programmatic level in the EIR for the county as a whole, and one near-term project, the Spiral Fiber Broadband Project, is advanced enough in its design and engineering to be evaluated at a project-specific level (unless otherwise noted, collectively referred to herein as the project).

The countywide program would install new fiber conduit predominantly underground along roadway rights-of-way and where existing conduit exists, new fiber could be installed in existing conduit, which would minimize ground disturbance. In some circumstances, fiber optic conduit could be installed under roadways where space is limited alongside the roadways. Access to the new conduits would be provided by installing access boxes (vaults) at intervals of not more than 3,000 feet along a proposed route for an individual project. Where topography or underground substrate would prohibit or impede construction of subsurface fiber optic lines, projects would install aboveground fiber optic line that would utilize existing or newly constructed utility poles.

The Spiral Fiber project would develop an estimated approximately 240 miles of underground fiber optic line, including about 220 miles of trunk line and 17 miles of service connections. The fiber optic line would use XGS-PON network architecture, which means it would support a higher speed 10 gigabit-enabled network. No aboveground fiber optic line would be included in the Spiral Fiber project. Similar to the facilities expected to be constructed elsewhere in the County, the Spiral Fiber project would include construction of new fiber conduit primarily along roadway rights-of-way; however, the fiber optic trunk lines and service connections would require in-road installation in locations throughout the proposed project area. The Spiral Fiber project would finance, construct, and operate an underground fiber optic internet network that would connect 10,000 homes and 400 businesses with high-speed internet access.

The objective of this EIR is to achieve compliance with CEQA for the proposed countywide program in advance such that individual fiber installers can take advantage of grant funding expected to be available through the California Emerging Technology Fund (CETF). CETF provides leadership statewide to close the “digital divide” by accelerating the deployment and adoption of broadband to unserved and underserved communities and populations.

Required Approvals

Actions that would be required from the County may include the following for the proposed project:

- certification of the EIR,
- adoption of a Mitigation Monitoring and Reporting Program,
- adoption of CEQA findings, and
- approval of a use permit and an encroachment permit.

Depending on the project-specific character, location, and construction techniques of future broadband projects, potential permits and approvals that could be required are identified in Table 1.

Table 1 Potential Permits and Approvals

Agency	Permits or Approvals
U.S. Army Corps of Engineers	• Nationwide Permit or Individual Permit under Section 404 of the Clean Water Act
Central Valley Regional Water Quality Control Board	• National Pollutant Discharge Elimination Construction General Permit • Section 401 water quality certification or a waiver of discharge requirements
Lahontan Regional Water Quality Control Board	• National Pollutant Discharge Elimination Construction General Permit • Section 401 water quality certification or a waiver of discharge requirements
California Department of Fish and Wildlife	• Lake and streambed alteration agreement p Section 1602 of the Fish and Game Code
City of Grass Valley	• Use permits, encroachment permits
Nevada City	• Use permits, encroachment permits
Town of Truckee	• Use permits, encroachment permits

Potential Environmental Effects

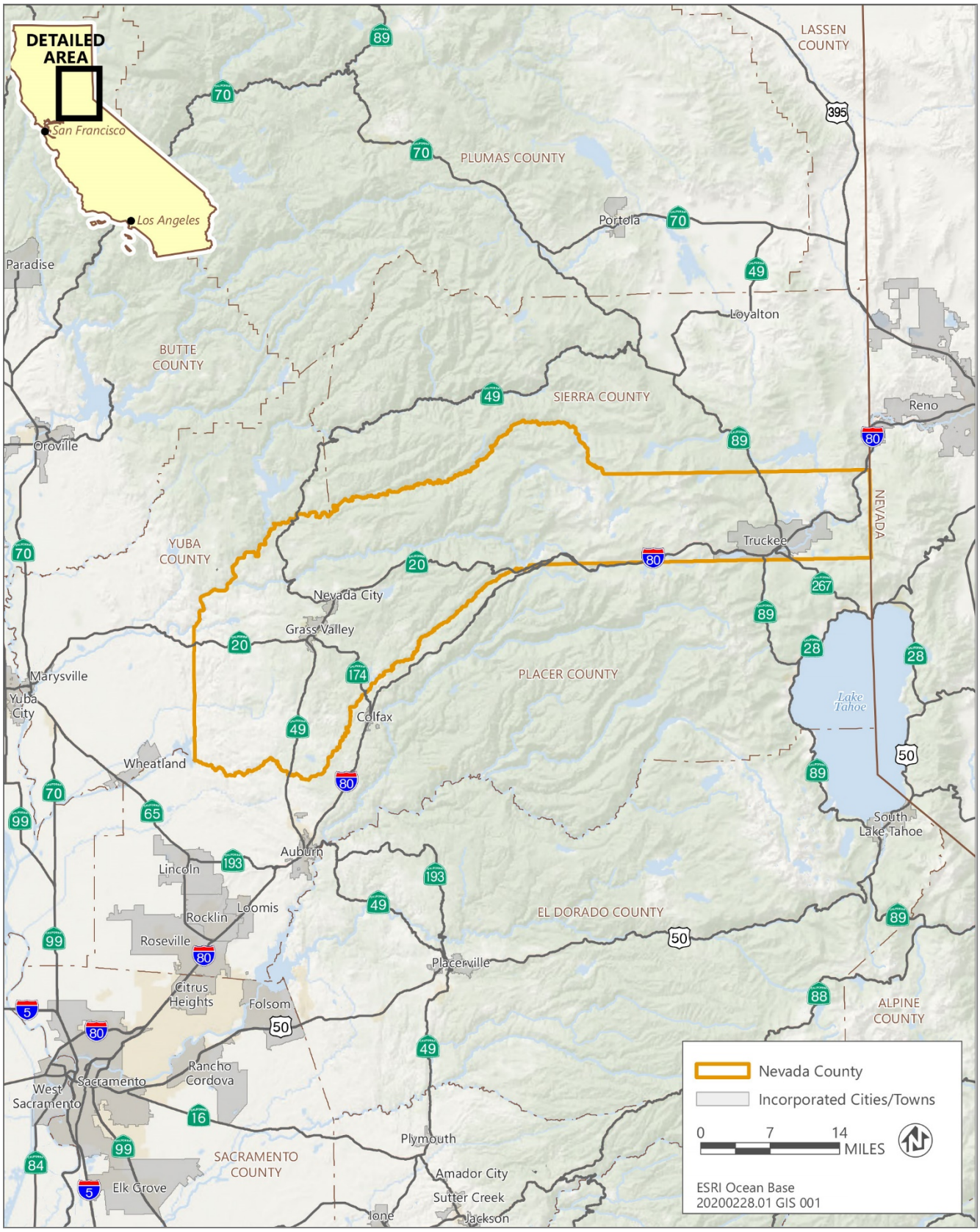
The EIR will consider the potential for direct, indirect, and cumulative effects for both construction and operational phases on the topics listed below.

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation and Traffic
- Tribal Cultural Resources
- Utilities and Service Systems
- Wildfire

The State CEQA Guidelines (Section 15128) allow an EIR to identify environmental effects that were determined to not be significant and to briefly describe the reasons. Such effects will be dismissed from detailed review in the environmental document and would include agricultural and forestry resources, land use and planning, mineral resources, population and housing, public services, and recreation.

Alternatives

In accordance with Section 15126.6 of the State CEQA Guidelines, an EIR must “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives.” As required by CEQA, the EIR will evaluate a No Project Alternative. Aside from the No Project Alternative, the County has not yet determined what additional alternatives to the project will be evaluated in the EIR. These will be identified during the environmental review process. Once selected, the alternatives will be analyzed at a qualitative level of detail in the Draft EIR for comparison against the impacts identified for the project, consistent with the requirements of CEQA.



Source: Adapted by Ascent in 2021

Figure 1 Regional Location

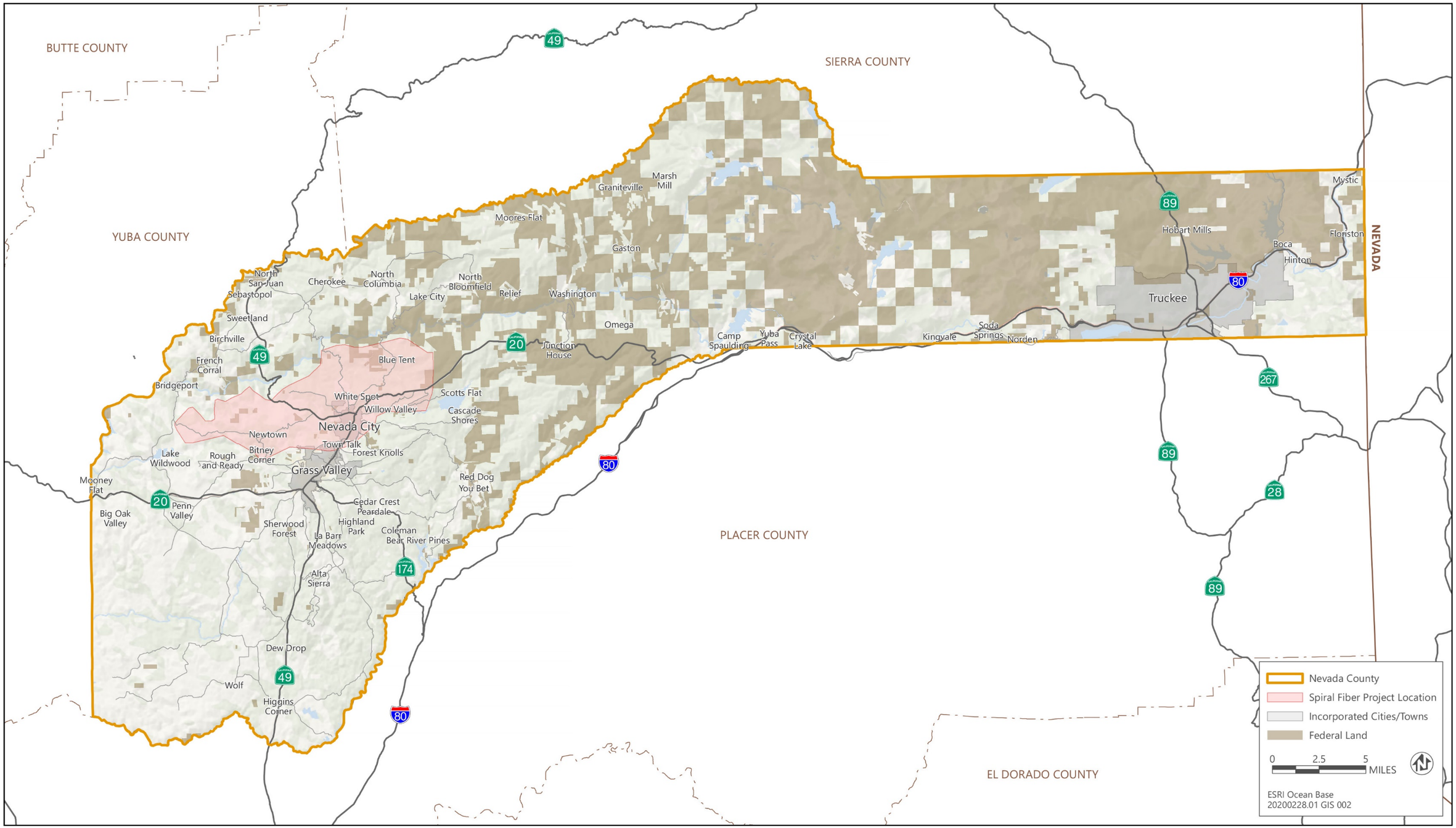
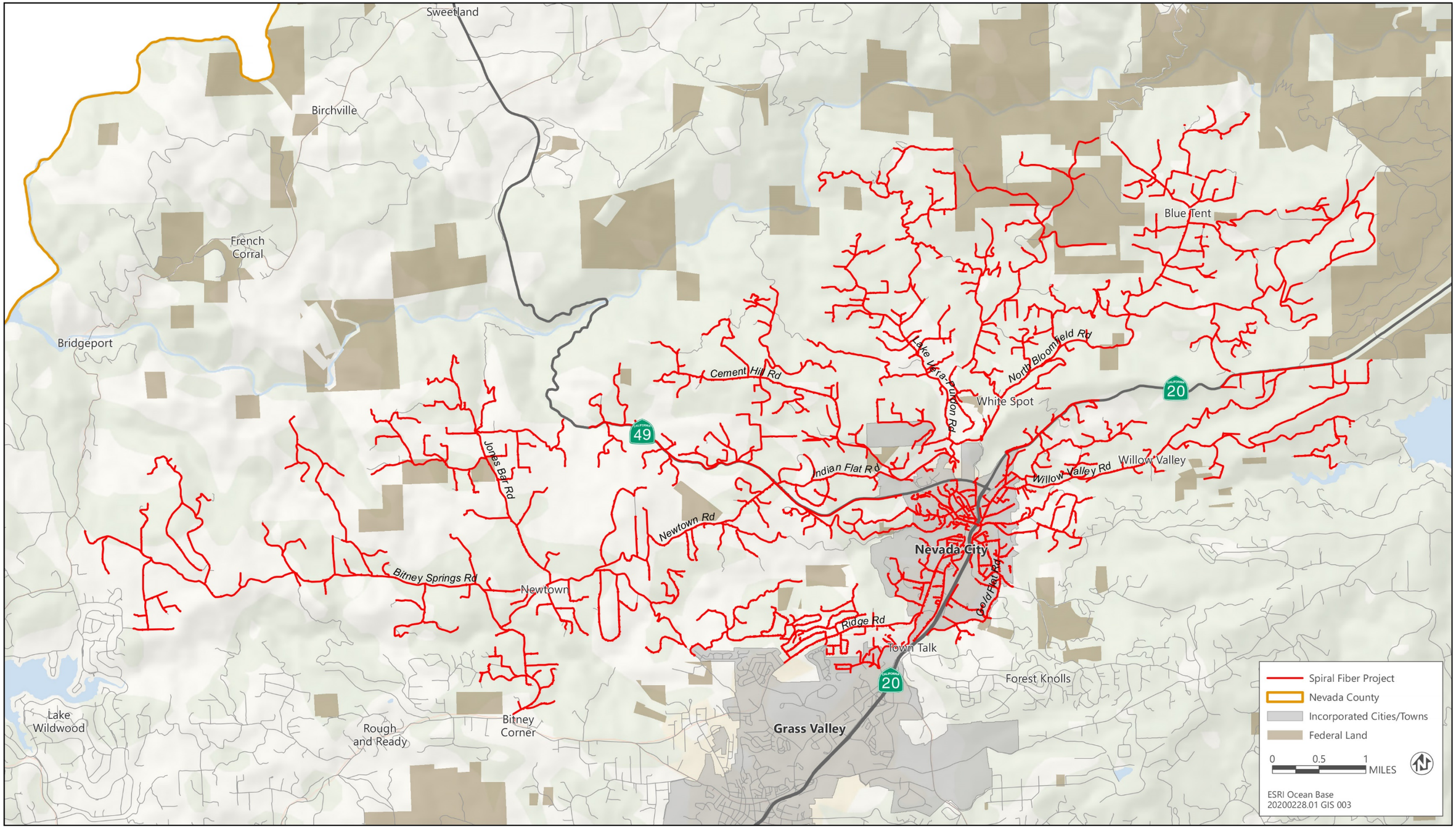


Figure 2 Proposed Program Location



Source: Adapted by Ascent in 2021

STATE OF CALIFORNIA

Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

December 20, 2021

Brian Foss
Nevada County
950 Maidu Avenue
Nevada City, CA 95959

Re: 2021120435, Nevada County Broadband Project and Spiral Fiber Broadband Project, Nevada County

Dear Mr. Foss:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.

b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Katy.Sanchez@nahc.ca.gov.

Sincerely,

Katy Sanchez

Katy Sanchez
Associate Environmental Planner

cc: State Clearinghouse

12 January 2022

Brian Foss
Nevada County
950 Maidu Avenue, Suite 170
Nevada City, CA 95959
Brian.Foss@co.nevada.ca.us

COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, NEVADA COUNTY BROADBAND PROJECT AND SPIRAL FIBER BROADBAND PROJECT, SCH#2021120435, NEVADA COUNTY

Pursuant to the State Clearinghouse's 17 December 2021 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the Nevada County Broadband Project and Spiral Fiber Broadband Project, located in Nevada County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has

adopted a Basin Plan amendment in noticed public hearings, it must be approved by the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the

State Water Resources Control Board website at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Phase I and II Municipal Separate Storm Sewer System (MS4) Permits[1]

The Phase I and II MS4 permits require the Permittees reduce pollutants and runoff flows from new development and redevelopment using Best Management Practices (BMPs) to the maximum extent practicable (MEP). MS4 Permittees have their own development standards, also known as Low Impact Development (LID)/post-construction standards that include a hydromodification component. The MS4 permits also require specific design concepts for LID/post-construction BMPs in the early stages of a project during the entitlement and CEQA process and the development plan review process.

For more information on which Phase I MS4 Permit this project applies to, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/municipal_permits/

For more information on the Phase II MS4 permit and who it applies to, visit the State Water Resources Control Board at: http://www.waterboards.ca.gov/water_issues/programs/stormwater/phase_ii_municipal.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ. For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act

[1] Municipal Permits = The Phase I Municipal Separate Storm Water System (MS4) Permit covers medium sized Municipalities (serving between 100,000 and 250,000 people) and large sized municipalities (serving over 250,000 people). The Phase II MS4 provides coverage for small municipalities, including non-traditional Small MS4s, which include military bases, public campuses, prisons and hospitals.

Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., "non-federal" waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at: https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage

under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4709 or Greg.Hendricks@waterboards.ca.gov.

Greg Hendricks
Environmental Scientist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

California Department of Transportation

DISTRICT 3
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February 8, 2022

GTS# 03-NEV-2022-00217
SCH 2021120435

Brian Foss
Planning Director
County of Nevada Community Development Agency
950 Maidu Ave
Nevada City, CA 95959-8617

Nevada County Broadband Project

Dear Brian:

Thank you for including the California Department of Transportation (Caltrans) in the Initial Consultation review process for the project referenced above. The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. The Local Development-Intergovernmental Review (LD-IGR) Program reviews land use projects and plans through the lenses of our mission and state planning priorities of infill, conservation, and travel-efficient development. To ensure a safe and efficient transportation system, we encourage early consultation and coordination with local jurisdictions and project proponents on all development projects that utilize the multimodal transportation network.

The proposed project of a program to expand access to broadband technology throughout Nevada County, including unincorporated areas and the three incorporated cities of Grass Valley, Nevada City, and the Town of Truckee is requesting comment on a draft Environmental Impact Report. The following comments are based on the provided project description.

Traffic Operations – Encroachment Permits

Any project along or within the State's right of way requires an encroachment permit that is issued by Caltrans. The applicant must provide necessary documents and mitigate any environmental, cultural resources, traffic operations, hydraulics, etc.. effects on the State's highway right of way . Facilities proposed within the State right of way necessitate a Maintenance Agreement with the local entity. Any work performed within the State's highway right of way must meet all Caltrans design and construction standards and will require a Caltrans' Encroachment Permit. A pre-application meeting with the encroachment permits unit is required (D3encpermit@dot.ca.gov). It appears that a section of the proposed Broadband installation crosses inside Interstate 80. Therefore, the applicant will have to provide a NEPA document with the application. It is likely that our office will also request FHWA approval.

Right of Way Engineering

Right of Way Engineering requires that State right of way be shown on the plans, and that bearing and distance information be included on the applications. We advise the applicant to seek Right of Way Record and Monument Maps from the District 3 Right of Way Front Map Counter by contacting d3rwmaprequest@dot.ca.gov. In cases where the development might disturb right of way or private monumentation, the applicant may also need to identify possible vulnerable survey monuments in the development area that will need to be preserved and/or perpetuated, as required by PE Act 6731.2 and PLS Act 8771.

Please provide our office with copies of any further actions regarding this project or future development of the property. We would appreciate the opportunity to review and comment on any changes related to this development.

If you have any questions regarding these comments or require additional information, please contact Colin Fredrickson, by phone (530) 812-5049 or via email to colin.fredrickson@dot.ca.gov.

Sincerely,

Kevin Yount

KEVIN YOUNT, Branch Chief
Office of Transportation Planning
Regional Planning Branch—East

Department of Toxic Substances Control

Jared Blumenfeld
Secretary for
Environmental Protection

Meredith Williams, Ph.D.
Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Gavin Newsom
Governor

January 10, 2022

Mr. Brian Foss
Nevada County
950 Maidu Avenue
Nevada City, CA 95959
Brian.Foss@co.nevada.ca.us

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR NEVADA COUNTY BROADBAND PROJECT AND SPIRAL FIBER BROADBAND PROJECT – DATED DECEMBER 17, 2021 (STATE CLEARINGHOUSE NUMBER: 2021120435)

Dear Mr. Foss:

The Department of Toxic Substances Control (DTSC) received a Notice of Preparation for a Draft Environmental Impact Report (EIR) for the Nevada County Broadband Project and Spiral Fiber Broadband Project (Project). The Lead Agency is receiving this notice from DTSC because the Project includes one or more of the following: groundbreaking activities, work in close proximity to a roadway, work in close proximity to mining or suspected mining or former mining activities, presence of site buildings that may require demolition or modifications, importation of backfill soil, and/or work on or in close proximity to an agricultural or former agricultural site.

DTSC recommends that the following issues be evaluated in the EIR Hazards and Hazardous Materials section:

1. The EIR should acknowledge the potential for historic or future activities on or near the project site to result in the release of hazardous wastes/substances on the project site. In instances in which releases have occurred or may occur, further studies should be carried out to delineate the nature and extent of the contamination, and the potential threat to public health and/or the environment should be evaluated. The EIR should also identify the mechanism(s) to initiate any required investigation and/or remediation and the government agency who will be responsible for providing appropriate regulatory oversight.

2. Refiners in the United States started adding lead compounds to gasoline in the 1920s in order to boost octane levels and improve engine performance. This practice did not officially end until 1992 when lead was banned as a fuel additive in California. Tailpipe emissions from automobiles using leaded gasoline contained lead and resulted in aerially deposited lead (ADL) being deposited in and along roadways throughout the state. ADL-contaminated soils still exist along roadsides and medians and can also be found underneath some existing road surfaces due to past construction activities. Due to the potential for ADL-contaminated soil DTSC, recommends collecting soil samples for lead analysis prior to performing any intrusive activities for the project described in the EIR.

3. If any sites within the project area or sites located within the vicinity of the project have been used or are suspected of having been used for mining activities, proper investigation for mine waste should be discussed in the EIR. DTSC recommends that any project sites with current and/or former mining operations onsite or in the project site area should be evaluated for mine waste according to DTSC's 1998 Abandoned Mine Land Mines Preliminary Assessment Handbook

4. If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with DTSC's 2006 *Interim Guidance Evaluation of School Sites with Potential Contamination from Lead Based Paint, Termiticides, and Electrical Transformers*.

5. If any projects initiated as part of the proposed project require the importation of soil to backfill any excavated areas, proper sampling should be conducted to ensure that the imported soil is free of contamination. DTSC recommends the imported materials be characterized according to *DTSC's 2001 Information Advisory Clean Imported Fill Material*.

6. If any sites included as part of the proposed project have been used for agricultural, weed abatement or related activities, proper investigation for organochlorinated pesticides should be discussed in the EIR. DTSC recommends the current and former agricultural lands be evaluated in accordance with DTSC's 2008 *Interim Guidance for Sampling Agricultural Properties (Third Revision)*.

DTSC appreciates the opportunity to comment on the EIR. Should you need any assistance with an environmental investigation, please visit DTSC's Site Mitigation and Restoration Program page to apply for lead agency oversight. Additional information regarding voluntary agreements with DTSC can be found at DTSC's Brownfield website.

If you have any questions, please contact me at (916) 255-3710 or via email at Gavin.McCreary@dtsc.ca.gov.

Sincerely,

Gavin McCreary
Project Manager
Site Evaluation and Remediation Unit
Site Mitigation and Restoration Program
Department of Toxic Substances Control

cc: (via email)

Governor's Office of Planning and Research
State Clearinghouse
State.Clearinghouse@opr.ca.gov

Mr. Dave Kereazis
Office of Planning & Environmental Analysis
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

Appendix B

Greenhouse Gas Emissions Modeling Calculations

Nevada County Broadband Project - Nevada County, Annual

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

Nevada County Broadband Project

Nevada County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	5.28	1000sqft	0.12	5,280.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	80
Climate Zone	1			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction and operational emissions for the Nevada County Broadband Project

Land Use - Land use represents fiber optic lines. Square footage represents 10ft wide 1 mile long segments

Construction Phase - Boring activities estimated to occur for 10 days. Trenching to occur over 18.

Off-road Equipment - Equipment list obtained by applicant

Off-road Equipment - Equipment list obtained by applicant

Trips and VMT - crew of 3 during boring, 5 during trenching

Vehicle Trips - Assume potential for one vehicle per day for maintenance.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	PhaseEndDate	4/3/2023	4/14/2023
tblOffRoadEquipment	HorsePower	221.00	187.00

Nevada County Broadband Project - Nevada County, Annual

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

tblOffRoadEquipment	LoadFactor	0.50	0.41
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	0.00	10.00
tblVehicleTrips	WD_TR	0.00	0.01

2.0 Emissions Summary

Nevada County Broadband Project - Nevada County, Annual

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

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	2.0800e-003	0.0152	0.0231	6.0000e-005	1.4600e-003	6.2000e-004	2.0800e-003	3.9000e-004	5.7000e-004	9.6000e-004			5.4470			5.4935
Maximum	**2.0800e-003**	**0.0152**	**0.0231**	**6.0000e-005**	**1.4600e-003**	**6.2000e-004**	**2.0800e-003**	**3.9000e-004**	**5.7000e-004**	**9.6000e-004**			**5.4470**			**5.4935**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	2.0800e-003	0.0152	0.0231	6.0000e-005	1.4600e-003	6.2000e-004	2.0800e-003	3.9000e-004	5.7000e-004	9.6000e-004			5.4470			5.4935
Maximum	**2.0800e-003**	**0.0152**	**0.0231**	**6.0000e-005**	**1.4600e-003**	**6.2000e-004**	**2.0800e-003**	**3.9000e-004**	**5.7000e-004**	**9.6000e-004**			**5.4470**			**5.4935**

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

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	4-3-2023	7-2-2023	0.0149	0.0149
		Highest	0.0149	0.0149

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.3000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			9.0000e-005			1.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Waste						0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Water						0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**5.3000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**9.0000e-005**			**1.0000e-004**

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

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.3000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			9.0000e-005			1.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Waste						0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Water						0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**5.3000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**9.0000e-005**			**1.0000e-004**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Boring	Site Preparation	4/3/2023	4/14/2023	5	10	
2	Trenching	Trenching	4/15/2023	5/10/2023	5	18	

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

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.12

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Boring	Bore/Drill Rigs	1	8.00	187	0.41
Boring	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Trenchers			78	0.50

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	0	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Boring	2	6.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Nevada County Broadband Project - Nevada County, Annual

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

3.2 Boring - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.5000e-003	0.0148	0.0182	5.0000e-005		6.1000e-004	6.1000e-004		5.6000e-004	5.6000e-004			4.2489			4.2833
Total	**1.5000e-003**	**0.0148**	**0.0182**	**5.0000e-005**	**0.0000**	**6.1000e-004**	**6.1000e-004**	**0.0000**	**5.6000e-004**	**5.6000e-004**			**4.2489**			**4.2833**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker	1.4000e-004	1.2000e-004	1.2300e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004			0.2995			0.3026
Total	**1.4000e-004**	**1.2000e-004**	**1.2300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.7000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**			**0.2995**			**0.3026**

Nevada County Broadband Project - Nevada County, Annual

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

3.2 Boring - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.5000e-003	0.0148	0.0182	5.0000e-005		6.1000e-004	6.1000e-004		5.6000e-004	5.6000e-004			4.2489			4.2833
Total	**1.5000e-003**	**0.0148**	**0.0182**	**5.0000e-005**	**0.0000**	**6.1000e-004**	**6.1000e-004**	**0.0000**	**5.6000e-004**	**5.6000e-004**			**4.2489**			**4.2833**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker	1.4000e-004	1.2000e-004	1.2300e-003	0.0000	3.6000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004			0.2995			0.3026
Total	**1.4000e-004**	**1.2000e-004**	**1.2300e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.7000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**			**0.2995**			**0.3026**

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

3.3 Trenching - 2023

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker	4.3000e-004	3.6000e-004	3.6800e-003	1.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004			0.8986			0.9077
Total	**4.3000e-004**	**3.6000e-004**	**3.6800e-003**	**1.0000e-005**	**1.0900e-003**	**1.0000e-005**	**1.1000e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**			**0.8986**			**0.9077**

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

3.3 Trenching - 2023

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker	4.3000e-004	3.6000e-004	3.6800e-003	1.0000e-005	1.0900e-003	1.0000e-005	1.1000e-003	2.9000e-004	1.0000e-005	3.0000e-004			0.8986			0.9077
Total	**4.3000e-004**	**3.6000e-004**	**3.6800e-003**	**1.0000e-005**	**1.0900e-003**	**1.0000e-005**	**1.1000e-003**	**2.9000e-004**	**1.0000e-005**	**3.0000e-004**			**0.8986**			**0.9077**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.385522	0.064823	0.251338	0.159546	0.050594	0.009769	0.008563	0.017134	0.000942	0.000162	0.043296	0.000631	0.007681

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

Mitigated

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

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000			0.0000
Total		**0.0000**			**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000			0.0000
Total		**0.0000**			**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.3000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			9.0000e-005			1.0000e-004
Unmitigated	5.3000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			9.0000e-005			1.0000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.8000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.4000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			9.0000e-005			1.0000e-004
Total	**5.2000e-004**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**9.0000e-005**			**1.0000e-004**

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.8000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.4000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000			9.0000e-005			1.0000e-004
Total	**5.2000e-004**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**9.0000e-005**			**1.0000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

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

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

7.2 Water by Land Use

Unmitigated

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

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

7.2 Water by Land Use

Mitigated

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000			0.0000
Total		**0.0000**			**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000			0.0000
Total		**0.0000**			**0.0000**

9.0 Operational Offroad

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

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Nevada County Broadband Project - Nevada County, Summer

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

Nevada County Broadband Project

Nevada County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	5.28	1000sqft	0.12	5,280.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	80
Climate Zone	1			**Operational Year**	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction and operational emissions for the Nevada County Broadband Project

Land Use - Land use represents fiber optic lines. Square footage represents 10ft wide 1 mile long segments

Construction Phase - Boring activities estimated to occur for 10 days. Trenching to occur over 18.

Off-road Equipment - Equipment list obtained by applicant

Off-road Equipment - Equipment list obtained by applicant

Trips and VMT - crew of 3 during boring, 5 during trenching

Vehicle Trips - Assume potential for one vehicle per day for maintenance.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	PhaseEndDate	4/3/2023	4/14/2023
tblOffRoadEquipment	HorsePower	221.00	187.00

Nevada County Broadband Project - Nevada County, Summer

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

tblOffRoadEquipment	LoadFactor	0.50	0.41
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	OffRoadEquipmentType	Graders	Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	0.00	10.00
tblVehicleTrips	WD_TR	0.00	0.01

2.0 Emissions Summary

Nevada County Broadband Project - Nevada County, Summer

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

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	0.3312	2.9708	3.9062	0.0104	0.1277	0.1220	0.1987	0.0339	0.1123	0.1326			1,006.9974			1,015.1679
Maximum	**0.3312**	**2.9708**	**3.9062**	**0.0104**	**0.1277**	**0.1220**	**0.1987**	**0.0339**	**0.1123**	**0.1326**			**1,006.9974**			**1,015.1679**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	0.3312	2.9708	3.9062	0.0104	0.1277	0.1220	0.1987	0.0339	0.1123	0.1326			1,006.9974			1,015.1679
Maximum	**0.3312**	**2.9708**	**3.9062**	**0.0104**	**0.1277**	**0.1220**	**0.1987**	**0.0339**	**0.1123**	**0.1326**			**1,006.9974**			**1,015.1679**

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

Nevada County Broadband Project - Nevada County, Summer

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.9300e-003	0.0000	5.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			1.1600e-003			1.2300e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total	**2.9300e-003**	**0.0000**	**5.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**1.1600e-003**			**1.2300e-003**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.9300e-003	0.0000	5.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			1.1600e-003			1.2300e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total	**2.9300e-003**	**0.0000**	**5.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**1.1600e-003**			**1.2300e-003**

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

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Boring	Site Preparation	4/3/2023	4/14/2023	5	10	
2	Trenching	Trenching	4/15/2023	5/10/2023	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.12

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Boring	Bore/Drill Rigs	1	8.00	187	0.41
Boring	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Trenching	Trenchers			78	0.50

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	0	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Boring	2	6.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

Nevada County Broadband Project - Nevada County, Summer

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

3.1 Mitigation Measures Construction

3.2 Boring - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3006	2.9508	3.6418	9.6800e-003		0.1216	0.1216		0.1119	0.1119			936.7255			944.2994
Total	**0.3006**	**2.9508**	**3.6418**	**9.6800e-003**	**0.0000**	**0.1216**	**0.1216**	**0.0000**	**0.1119**	**0.1119**			**936.7255**			**944.2994**

Nevada County Broadband Project - Nevada County, Summer

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

3.2 Boring - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker	0.0306	0.0200	0.2644	6.9000e-004	0.0766	3.9000e-004	0.0770	0.0203	3.6000e-004	0.0207			70.2719			70.8685
Total	**0.0306**	**0.0200**	**0.2644**	**6.9000e-004**	**0.0766**	**3.9000e-004**	**0.0770**	**0.0203**	**3.6000e-004**	**0.0207**			**70.2719**			**70.8685**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3006	2.9508	3.6418	9.6800e-003		0.1216	0.1216		0.1119	0.1119			936.7255			944.2994
Total	**0.3006**	**2.9508**	**3.6418**	**9.6800e-003**	**0.0000**	**0.1216**	**0.1216**	**0.0000**	**0.1119**	**0.1119**			**936.7255**			**944.2994**

Nevada County Broadband Project - Nevada County, Summer

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

3.2 Boring - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker	0.0306	0.0200	0.2644	6.9000e-004	0.0766	3.9000e-004	0.0770	0.0203	3.6000e-004	0.0207			70.2719			70.8685
Total	**0.0306**	**0.0200**	**0.2644**	**6.9000e-004**	**0.0766**	**3.9000e-004**	**0.0770**	**0.0203**	**3.6000e-004**	**0.0207**			**70.2719**			**70.8685**

3.3 Trenching - 2023

Unmitigated Construction On-Site

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

Nevada County Broadband Project - Nevada County, Summer

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

3.3 Trenching - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker	0.0510	0.0333	0.4407	1.1400e-003	0.1277	6.4000e-004	0.1284	0.0339	5.9000e-004	0.0345			117.1198			118.1141
Total	**0.0510**	**0.0333**	**0.4407**	**1.1400e-003**	**0.1277**	**6.4000e-004**	**0.1284**	**0.0339**	**5.9000e-004**	**0.0345**			**117.1198**			**118.1141**

Mitigated Construction On-Site

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

Nevada County Broadband Project - Nevada County, Summer

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

3.3 Trenching - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker	0.0510	0.0333	0.4407	1.1400e-003	0.1277	6.4000e-004	0.1284	0.0339	5.9000e-004	0.0345			117.1198			118.1141
Total	**0.0510**	**0.0333**	**0.4407**	**1.1400e-003**	**0.1277**	**6.4000e-004**	**0.1284**	**0.0339**	**5.9000e-004**	**0.0345**			**117.1198**			**118.1141**

Nevada County Broadband Project - Nevada County, Summer

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.385522	0.064823	0.251338	0.159546	0.050594	0.009769	0.008563	0.017134	0.000942	0.000162	0.043296	0.000631	0.007681

Nevada County Broadband Project - Nevada County, Summer

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

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

Nevada County Broadband Project - Nevada County, Summer

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

5.2 Energy by Land Use - NaturalGas

Mitigated

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

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.9300e-003	0.0000	5.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			1.1600e-003			1.2300e-003
Unmitigated	2.9300e-003	0.0000	5.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			1.1600e-003			1.2300e-003

Nevada County Broadband Project - Nevada County, Summer

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.0100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.8700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	0.0000	5.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			1.1600e-003			1.2300e-003
Total	**2.9300e-003**	**0.0000**	**5.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**1.1600e-003**			**1.2300e-003**

Nevada County Broadband Project - Nevada County, Summer

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

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.0100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.8700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	0.0000	5.4000e-004	0.0000		0.0000	0.0000		0.0000	0.0000			1.1600e-003			1.2300e-003
Total	**2.9300e-003**	**0.0000**	**5.4000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**			**1.1600e-003**			**1.2300e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

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

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix C

Noise Modeling Calculations

Construction Leq

Location	Distance To Where Threshold Would be Exceeded in feet	Combined Predicted Noise Level (L_{eq} dBA)
City of Grass Valley, County of Nevada, & Town of Truckee	1269	55.0
City of Nevada (Construction threshold: 90 dB at 50 feet)	50	83.1
City of Nevada (Construction threshold: 90 dB at 50 feet)	23	89.8

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Excavator	85	0.2
Dump Truck	84	0.4
Backhoe	80	0.4

Ground Type	hard
Source Height	8
Receiver Height	5
Ground Factor[2]	0.00

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Excavator	78.0
Dump Truck	80.0
Backhoe	76.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
83

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

$L_{eq}(equip) = E.L.+10*\log(U.F.) - 20*\log(D/50) - 10*G*\log(D/50)$

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Construction Lmax

Location	Distance to Nearest Receptor in feet	Combined Predicted Noise Level (L_{eq} dBA)
County of Nevada Threshold	169	75.0

Equipment	Reference Emission Noise Levels (L_{max}) at 50 feet[1]	Usage Factor[1]
Excavator	85	1
Dump Truck	84	1
Backhoe	80	1

Ground Type	soft
Source Height	8
Receiver Height	5
Ground Factor[2]	0.63

Predicted Noise Level [3]	L_{eq} dBA at 50 feet[3]
Excavator	85.0
Dump Truck	84.0
Backhoe	80.0

Combined Predicted Noise Level (L_{eq} dBA at 50 feet)
88

Sources:

[1] Obtained from the FHWA Roadway Construction Noise Model, January 2006. Table 1.

[2] Based on Figure 6-5 from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 6-23).

[3] Based on the following from the Federal Transit Noise and Vibration Impact Assessment, 2006 (pg 12-3).

L_{eq}(equip) = E.L.+10*log (U.F.) - 20*log (D/50) - 10*G*log (D/50)

Where: E.L. = Emission Level;

U.F.= Usage Factor;

G = Constant that accounts for topography and ground effects (FTA 2006: pg 6-23); and

D = Distance from source to receiver.

Attenuation Calculations for Stationary Noise Sources

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

STEP 1: Identify the noise source and enter the reference noise level (dBA and distance).

STEP 2: Select the ground type (hard or soft), and enter the source and receiver heights.

STEP 3: Select the distance to the receiver.

Noise Source/ID	Reference Noise Level			Attenuation Characteristics				Attenuated Noise Level at Receptor		
	noise level (dBA)	@	distance (ft)	Ground Type (soft/hard)	Source Height (ft)	Receiver Height (ft)	Ground Factor	noise level (dBA)	@	distance (ft)
Helicopter	68.0	@	492	soft	6	5	0.65	94.3	@	50
chipper	99.0	@	3	soft	6	5	0.65	67.7	@	50
blasting (night lmax)	94.0	@	50	soft	6	5	0.65	65.0	@	620
helicopter (night leq)	68.0	@	492.00	soft	6	5	0.65	45.1	@	3600
blasting (day lmax)	94.0	@	50	soft	6	5	0.65	70.1	@	400
helicopter (day leq)	68.0	@	492	soft	6	5	0.65	55.0	@	1520
Blasting (SF Res)	94.0	@	50	soft	6	5	0.65	79.6	@	175
blasting	94.0	@	50	soft	6	5	0.65	86.0	@	100
construction	85.0	@	50	soft	6	5	0.65	93.0	@	25
construction	with michele	@	50	soft	6	5	0.65	#VALUE!	@	25
							0.66			
							0.66			
							0.66			
							0.66			

Notes:

Estimates of attenuated noise levels do not account for reductions from intervening barriers, including walls, trees, vegetation, or structures of any type.

Computation of the attenuated noise level is based on the equation presented on pg. 12-3 and 12-4 of FTA 2006.

Computation of the ground factor is based on the equation presentd in Figure 6-23 on pg. 6-23 of FTA 2006, where the distance of the reference noise leve can be adjusted and the usage factor is not applied (i.e., the usage factor is equal to 1).

Sources:

Federal Transit Association (FTA). 2006 (May). Transit Noise and Vibration Impact Assessment. FTA-VA-90-1003-06. Washington, D.C. Available: <http://www.fta.dot.gov/documents/FTA_Noise_and_Vibration_Manual.pdf>. Accessed: September 24, 2010.

Equipment Description	Acoustical Usage Factor (%)	Spec 721.560 Lmax @ 50ft (dBA slow)	Actual Measured Lmax @ 50ft (dBA slow)	No. of Actual Data Samples (count)	Spec 721.560 LmaxCalc	Spec 721.560 Leq	Distance	Actual Measured LmaxCalc	Actual Measured Leq
Auger Drill Rig	20	85	84	36	79.0	72.0	100	78.0	71.0
Backhoe	40	80	78	372	74.0	70.0	100	72.0	68.0
Bar Bender	20	80	na	0	74.0	67.0	100		
Blasting	na	94	na	0	88.0		100		
Boring Jack Power Unit	50	80	83	1	74.0	71.0	100	77.0	74.0
Chain Saw	20	85	84	46	79.0	72.0	100	78.0	71.0
Clam Shovel (dropping)	20	93	87	4	87.0	80.0	100	81.0	74.0
Compactor (ground)	20	80	83	57	74.0	67.0	100	77.0	70.0
Compressor (air)	40	80	78	18	74.0	70.0	100	72.0	68.0
Concrete Batch Plant	15	83	na	0	77.0	68.7	100		
Concrete Mixer Truck	40	85	79	40	79.0	75.0	100	73.0	69.0
Concrete Pump Truck	20	82	81	30	76.0	69.0	100	75.0	68.0
Concrete Saw	20	90	90	55	84.0	77.0	100	84.0	77.0
Crane	16	85	81	405	79.0	71.0	100	75.0	67.0
Dozer	40	85	82	55	79.0	75.0	100	76.0	72.0
Drill Rig Truck	20	84	79	22	78.0	71.0	100	73.0	66.0
Drum Mixer	50	80	80	1	74.0	71.0	100	74.0	71.0
Dump Truck	40	84	76	31	78.0	74.0	100	70.0	66.0
Excavator	40	85	81	170	79.0	75.0	100	75.0	71.0
Flat Bed Truck	40	84	74	4	78.0	74.0	100	68.0	64.0
Front End Loader	40	80	79	96	74.0	70.0	100	73.0	69.0
Generator	50	82	81	19	76.0	73.0	100	75.0	72.0
Generator (<25KVA, VMS signs)	50	70	73	74	64.0	61.0	100	67.0	64.0
Gradall	40	85	83	70	79.0	75.0	100	77.0	73.0
Grader	40	85	na	0	79.0	75.0	100		
Grapple (on Backhoe)	40	85	87	1	79.0	75.0	100	81.0	77.0
Horizontal Boring Hydr. Jack	25	80	82	6	74.0	68.0	100	76.0	70.0
Hydra Break Ram	10	90	na	0	84.0	74.0	100		
Impact Pile Driver	20	95	101	11	89.0	82.0	100	95.0	88.0
Jackhammer	20	85	89	133	79.0	72.0	100	83.0	76.0
Man Lift	20	85	75	23	79.0	72.0	100	69.0	62.0
Mounted Impact Hammer (hoe ram)	20	90	90	212	84.0	77.0	100	84.0	77.0
Pavement Scarafier	20	85	90	2	79.0	72.0	100	84.0	77.0
Paver	50	85	77	9	79.0	76.0	100	71.0	68.0
Pickup Truck	40	55	75	1	49.0	45.0	100	69.0	65.0
Pneumatic Tools	50	85	85	90	79.0	76.0	100	79.0	76.0
Pumps	50	77	81	17	71.0	68.0	100	75.0	72.0
Refrigerator Unit	100	82	73	3	76.0	76.0	100	67.0	67.0
Rivit Buster/chipping gun	20	85	79	19	79.0	72.0	100	73.0	66.0
Rock Drill	20	85	81	3	79.0	72.0	100	75.0	68.0
Roller	20	85	80	16	79.0	72.0	100	74.0	67.0
Sand Blasting (Single Nozzle)	20	85	96	9	79.0	72.0	100	90.0	83.0
Scraper	40	85	84	12	79.0	75.0	100	78.0	74.0
Shears (on backhoe)	40	85	96	5	79.0	75.0	100	90.0	86.0
Slurry Plant	100	78	78	1	72.0	72.0	100	72.0	72.0
Slurry Trenching Machine	50	82	80	75	76.0	73.0	100	74.0	71.0
Soil Mix Drill Rig	50	80	na	0	74.0	71.0	100		
Tractor	40	84	na	0	78.0	74.0	100		
Vacuum Excavator (Vac-truck)	40	85	85	149	79.0	75.0	100	79.0	75.0
Vacuum Street Sweeper	10	80	82	19	74.0	64.0	100	76.0	66.0
Ventilation Fan	100	85	79	13	79.0	79.0	100	73.0	73.0
Vibrating Hopper	50	85	87	1	79.0	76.0	100	81.0	78.0
Vibratory Concrete Mixer	20	80	80	1	74.0	67.0	100	74.0	67.0
Vibratory Pile Driver	20	95	101	44	89.0	82.0	100	95.0	88.0
Warning Horn	5	85	83	12	79.0	66.0	100	77.0	64.0
Welder / Torch	40	73	74	5	67.0	63.0	100	68.0	64.0
chipper		75							

Source:
FHWA Roadway Construction Noise Model, January 2006. Table 9.1
U.S. Department of Transportation
CA/T Construction Spec. 721.560

Distance Propagation Calculations for Stationary Sources of Ground Vibration

KEY: Orange cells are for input.
Grey cells are intermediate calculations performed by the model.
Green cells are data to present in a written analysis (output).

STEP 1: Determine units in which to perform calculation.
— If vibration decibels (VdB), then use Table A and proceed to Steps 2A and 3A.
— If peak particle velocity (PPV), then use Table B and proceed to Steps 2B and 3B.

STEP 2A: Identify the vibration source and enter the reference vibration level (VdB) and distance.

STEP 3A: Select the distance to the receiver.

Table A. Propagation of vibration decibels (VdB) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (VdB)	@	distance (ft)	vibration level (VdB)	@	distance (ft)
Hydromill (slurry wall)	75	@	25	80.0	@	17
Loaded Trucks	86.0	@	25	79.9	@	40
Roller	94.0	@	25	80.0	@	73
Caisson drilling	87.0	@	25	79.9	@	43

80 vdb

The Lv metric (VdB) is used to assess the likelihood for vibration to result in human annoyance.

STEP 2B: Identify the vibration source and enter the reference peak particle velocity (PPV) and distance.

STEP 3B: Select the distance to the receiver.

Table B. Propagation of peak particle velocity (PPV) with distance

Noise Source/ID	Reference Noise Level			Attenuated Noise Level at Receptor		
	vibration level (PPV)	@	distance (ft)	vibration level (PPV)	@	distance (ft)
Hydromill (slurry wall)	0.017	@	25	0.019	@	23
Loaded Trucks	0.076	@	25	0.181	@	14
Roller	0.210	@	25	0.198	@	26
Caisson drilling	0.089	@	25	0.191	@	15

0.2 ppv

The PPV metric (in/sec) is used for assessing the likelihood for the potential of structural damage.

Notes:
Computation of propagated vibration levels is based on the equations presented on pg. 185 of FTA 2018. Estimates of attenuated vibration levels do not account for reductions from intervening underground barriers or other underground structures of any type, or changes in soil type.

Federal Transit Association (FTA). 2018 (September). Transit Noise and Vibration Impact Assessment Manual. FTA Report No. 0123. Washington, D.C. Accessed: December 20, 2020. Page Available: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf